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CATALOG OF AUTHORIZED SUBJECTS FOR ADULT SCHOOLS, GRADUATION REQUIREMENTS AND CURRICULA (1966-67 REVISION).

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LOS ANGELES CITY SCHOOLS, CALIF.

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THE ADULT EDUCATION PROGRAM OF THE LOS ANGELES CITY SCHOOLS, CONDUCTED IN 28 ADULT SCHOOLS, HAD AN ENROLLMENT OF 190,000 AND A TEACHING STAFF OF 2,200 DURING 1965-66. INSTRUCTION IS PROVIDED IN RESPONSE TO PUBLIC DEMAND EXPRESSED BY ORGANIZATIONS AND ADVISORY COMMITTEES IN 10 AREAS--ACADEMIC, BUSINESS, CIVIC, ELEMENTARY AND CITIZENSHIP, FINE ARTS AND CRAFTS, HEALTH, HOMEMAKING, HORTICULTURE, INDUSTRIAL, AND MUSIC EDUCATION. THIS CATALOG CONTAINS COURSE DESCRIPTIONS, PREREQUISITES, GRADE LEVELS, WORK ACHIEVEMENT CREDITS, GRADUATION REQUIREMENTS, AND NUMBER OF HIGH SCHOOL CREDITS THAT MAY BE EARNED. INTENDED PRIMARILY FOR THE USE OF COUNSELORS AND ADULT ADMINISTRATORS AS A WORKING MANUAL WITH WHICH THEY MAY GUIDE ADULTS IN ACHIEVING EDUCATIONAL GOALS, IT IS ALSO A STATEMENT OF THE STANDARD OF CURRICULUM REQUIREMENTS OF THE LOS ANGELES BOARD OF EDUCATION. (AJ)

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GRADUATION REQUIREMENTS
AND CURRICULA

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GRADUATION REQUIREMENTS
AND
CURRICULA

Los Angeles City Schools
Division of Instructional Services
Publication No. AC-100
1966-67 Revision

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CONTINUING EDUCATION

FOREWORD

Providing for a program of adult education is one of the important responsibilities of the Los Angeles City Schools. Its purpose is to offer learning opportunities to adults in meeting their basic educational needs, and the program is conducted in 28 adult schools. The adult school curriculum is classified into 10 areas of general education: Academic Education, Business Education, Civic Education, Elementary and Citizenship Education, Fine Arts and Crafts Education, Health Education, Homemaking Education, Horticulture Education, Industrial Education, and Music Education.

During 1965-66, approximately 190,000 adults enrolled in the various courses. To achieve the comprehensive purpose, organized programs of adult school instruction are provided in response to public demand as expressed by organizations and other groups and by advisory committees. All offerings are geared to serve the educational needs of adults residing in the vast area encompassed by the Los Angeles City Schools Districts.

The *Catalog of Authorized Subjects for Adult Schools,* 1966-67 Revision, contains descriptions of those courses which have been approved for scheduling. In addition, applicable prerequisites, grade levels, and the number of high school credits that may be earned are listed. The course number for each subject will assist principals in reporting enrollment in classes and subjects to the Budget Division. Adult school graduation requirements and curricula are also included.

During the school year, additional courses may be approved for inclusion in the adult education program on an experimental basis. These courses carry an "E" number. Once a year, the Board of Education officially adopts new courses and authorizes the deletions of those which are obsolete. These changes are made in subsequent catalogs of authorized subjects.

EVERETT CHAFFEE
Associate Superintendent
Division of Instructional Services

This publication has been developed in accordance
with the *Comprehensive Curriculum Policy* adopted
by the Los Angeles City Board of Education.

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ACKNOWLEDGMENTS

Appreciation is expressed to all who have assisted in the 1966-1967 Revision of the *Catalog of Authorized Subjects for Adult Schools*. The committee consisted of the following teachers, subject specialists, supervisors, and principals:

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ACADEMIC EDUCATION 1 - 299 1
  1 - 49 English
  50 - 89 Languages
  90 - 129 Mathematics
  130 - 184 Sciences
  185 - 229 Social Sciences
  230 - 249 Speech

BUSINESS EDUCATION 300 - 699 18
- 300 - 319 Accounting
- 320 - 339 Business Data Processing
- 340 - 359 Business Machines
- 360 - 374 Finance
- 375 - 419 General Business
- 420 - 439 Insurance
- 440 - 454 Law
- 455 - 509 Management and Supervision
- 510 - 559 Merchandising
- 560 - 589 Real Estate
- 590 - 659 Secretarial Science
- 660 - 699 Transportation and Traffic Management

CIVIC EDUCATION 700 - 774 39
- 700 - 704 Civil Aeronautics
- 705 - 709 Civil Defense
- 710 - 719 Driver Education
- 720 - 729 Fire Science
- 730 - 734 Leadership Training
- 735 - 759 Police Science
- 760 - 769 Civic Education
- 770 - 774 Gerontology

ELEMENTARY AND CITIZENSHIP EDUCATION 775 - 799 44
- 775 - 784 Elementary Subjects
- 785 - 789 Citizenship
- 790 - 799 English As a Second Language

FINE ARTS AND CRAFTS EDUCATION 800 - 834 47
- 800 - 804 Crafts
- 805 - 834 Fine Arts

HEALTH EDUCATION 835 - 884 50
- 835 - 839 First Aid
- 840 - 849 Health and Hygiene
- 850 - 854 Physical Education
- 855 - 864 Nursing
- 865 - 884 Swimming

HOMEMAKING EDUCATION 885 - 984 53
885 - 904 Clothing Construction
905 - 915 Consumer Education
916 - 925 Foods
926 - 929 Homemaking, General
930 - 949 Home Furnishings
950 - 954 Millinery
955 - 984 Parent and Family Life Education

HORTICULTURE EDUCATION 985 - 999 59
985 - 999 Horticulture

INDUSTRIAL EDUCATION 1000 - 1499 60
APPRENTICESHIP EDUCATION 1000 - 1099 60
1000 - 1099 Apprenticeship Education

TRADE AND TECHNICAL EDUCATION 1100 - 1499 70
1100 - 1124 Aero Space
1125 - 1149 Automotive
1150 - 1174 Building Construction
1175 - 1249 Drafting and Design
1250 - 1329 Electrical and Electronics
1330 - 1364 Graphic Arts
1365 - 1419 Metal
1420 - 1459 Personal and Public Service
1460 - 1474 Supervision
1475 - 1484 Textile and Apparel
1485 - 1499 Woodworking

MUSIC EDUCATION 1500 - 1549 101
1500 - 1507 Instrumental
1508 - 1512 Organ
1513 - 1519 Piano
1520 - 1529 Theory
1530 - 1539 Vocal
1540 - 1549 Music, General

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OBJECTIVES

This catalog is intended primarily for the use of counselors and adult administrators and to give them a working manual with which they may guide adults in achieving educational goals.

But this publication is much more than this. It has been carefully developed over many months in order to express the principles of the Los Angeles Board of Education in terms of curricula requirements. It is aimed at high standards in keeping with the great public school system freely supported by the citizens of Los Angeles. It is intended as a vehicle which will help our great and increasing number of adults who are striving to better themselves to make worthy contributions to the society in which they live.

J. RICHARD SMITH
Assistant Superintendent

GENERAL INFORMATION

PURPOSE OF ADULT EDUCATION

Public-supported adult education is designed to provide people in the community with educational opportunities for improvement of both the individual and society. The role of adult education in the Los Angeles City Schools is to develop the knowledge, skills, and attitudes necessary to meet the immediate demands of modern society and to prepare for the future. Essentially, these goals are derived from instruction and experience in the:

—Traditions and Aspirations of the American Way of Life.

—History of Man

—Cultures of Man

—Institutions of Man

—Goals of Man

—Communication Between Men

Adult education has a great challenge and responsibility to serve the individual, the family, the community, and the nation. It provides one of the vital keys to our economic and cultural development by strengthening the nation's human resources. Intensive, continuous education is necessary to accelerate the development of our society and to assure that each individual fully achieves his potential.

ORGANIZATION AND PROGRAM

Under the general supervision of the Adult Education Branch, 28 principals administer the program in given areas and serve as area directors of adult education. Each area includes a central school and branch locations, where day and evening classes are held. Supervisors and specialists are assigned to several subject areas. Approximately 2,200 teachers staff the classrooms.

The objectives and content of the program are educationally sound and professionally guided. The program is conducted on a distinctly adult level. It includes effective counseling and guidance, scheduling of regular high school subjects leading to the high school diploma, an effective elementary education program, vocational courses, Americanization and citizenship classes, business education, homemaking education, gerontology, an active lecture and forum program, health and physical education, and music and fine arts.

SOURCES OF CREDIT

Five sources of credit may be applied toward a high school diploma in the Los Angeles adult schools:

1. Credits earned in other accredited secondary schools.
2. Credits granted for basic training and courses completed during military service.
3. Credits allowed through the testing program of the Los Angeles City Schools.
4. Credits granted upon verification of work achievement having educational value.
5. Credits earned in high school correspondence courses from the University of California or United States Armed Forces Institute.

WORK ACHIEVEMENT CREDIT

Credit may be obtained on the basis of verified work achievement resulting in knowledge of skills comparable to those acquired in a secondary school class. In some cases, an achievement test may be required in addition to verification. The following are basic principles upon which such credit is granted:

1. Credit for work achievement after the age of 18 may be granted toward graduation requirements.
2. Credit shall be granted on the basis of 10 semester periods per year or 5 semester periods for 6 months. No other division shall be made to account for odd months above 12.

   No credit shall be granted for work achievement in excess of 12 months if there is no change in the type of work performed. Exceptions may be made if the type of work is progressively more difficult, justifying a division into beginning and advanced courses.
3. A person must be employed for at least one year with the same firm before his work achievement may be considered for credit, and he must spend at least 6 months at each type of work for which he requests credit.

   For example, if a person were employed by the same firm as a machinist for 9 months and a draftsman for 5 months, he would be eligible to apply for 5 semester periods of work achievement credit as machinist, but he would not be eligible to receive credit for his work as a draftsman.
4. Work achievement credit may not exceed 40 semester periods. (Journeyman level or equivalent.)
5. Credit may be granted only for vocational experience for which wages or salary were received. A person who is self-employed and thereby earning a livelihood shall be regarded as employed with pay.

An adult wishing to obtain work achievement credit should submit to the counselor letters signed by his employers on company stationery, verifying in detail the length of his employment and the number of months spent at each type of work for which he is seeking credit and providing descriptions of duties for each job held.

The counselor will assist in preparing the necessary forms and will submit them through the principal to a central credit evaluation committee for final approval.

COUNSELING

Adult schools maintain a staff of trained counselors who give educational and vocational guidance to students. Candidates for an elementary or high school diploma should consult the counselor for evaluation of their credits completed and advice on a course of study for completing diploma requirements. Counselors always are available before school opens and it is wise to see them in advance of opening of a new term.

The adult schools to maintain contact with students who think it necessary to change plans before graduation request the aid and assistance of day counselors and administrators. If it is necessary for a day pupil to drop out of high school, it is important for him to secure the advice of both the day and adult school counselors so that when his education continues the requirements for a diploma may still be met.

ENTRANCE REQUIREMENTS

Anyone over 18 years of age may attend adult school, however, students who wish to become candidates for the elementary or high school diploma must meet certain requirements. Also, high school graduates may attend regardless of age.

Candidates for high school diplomas must have an eighth grade diploma or its equivalent and must have sufficient command of the English language to pursue a course of study at the secondary level.

Under some special circumstances minors may be admitted to adult schools, e.g., married minors not attending day school, students registered and pursuing courses in Continuation School, and students given special permission of the day and adult school principals concerned.

Adults who seek an eighth grade diploma will be counseled for placement and instruction, regardless of previous schooling.

Credit earned in any adult school may be transferred to another adult school by request of counselors. Students entering universities, state colleges, colleges, junior colleges, or trade schools after graduation should request transcripts of credit be sent to the new institution and in time to meet entrance requirements.

STANDARDS OF ACHIEVEMENT

Adult schools use the letter grading system current in the Los Angeles City School System:

- A—Superior
- B—Better than Average
- C—Average
- D—Barely Passing
- Fail-Failure
- Inc.-Incomplete: Temporary mark until required completion date

Satisfactory scholarship must be achieved as evidenced by accomplishing a high standard of progress in classwork, homework, and periodic subject tests. Likewise, students must maintain a satisfactory record of attendance and citizenship in each class throughout the semester in which credit is earned. Students shall not be allowed credit for a course in which they have attended less than 80% of the class time.

CREDIT

Credit is awarded on the basis of the Carnegie unit, i.e., 5 semester periods for classes scheduled 60 hours during the semester.

Credit is not awarded in units less than 2½ semester periods.

No credit toward high school graduation is given for classes in physical education, citizenship, elementary subjects, and English As a Second Language.

A minimum of 15 semester periods of work must be completed in residence at the adult school granting the diploma.

Additional credit may not be granted though repetition of a subject for which credit has previously been awarded, however, a course may be repeated for the purpose of gaining a higher mark.

A minimum of 130 semester periods of work must be completed above the 9th grade.

REQUIREMENTS OF ADULT EDUCATION PROGRAMS

HIGH SCHOOL DIPLOMA REQUIREMENTS IN FOUR-YEAR ADULT SCHOOLS

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition	5		
(Prerequisite: 20 semester periods of English courses which include composition)			
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			40-50
Choice of: Academic, Fine Arts and Music, General, Business, Homemaking, Industrial, or Secretarial			
‡ELECTIVES			40-30
(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.		Total	170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

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†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

A STUDENT PLANNING TO ENTER COLLEGE SHOULD REFER TO THE ENTRANCE REQUIREMENTS OF THE COLLEGE OF HIS CHOICE.

ACADEMIC MAJOR

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition	5		
(Prerequisite: 20 semester periods of English courses which include composition)			
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			40
Required Courses: foreign language		20	
Choice of two of the following:		20	
mathematics	10		
foreign language	10		
science	10		
‡ELECTIVES			40
(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.		Total	170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

A STUDENT PLANNING TO ENTER COLLEGE SHOULD REFER TO THE ENTRANCE REQUIREMENTS OF THE COLLEGE OF HIS CHOICE.

BUSINESS MAJOR

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition (Prerequisite: 20 semester periods of English courses which include composition)	5		
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			40

Required Courses: The major sequence may be completed by any course that carries credit and is listed in the Catalog of Authorized Subjects for Adult Schools in these areas, as long as no fewer than 10 semester periods are completed in any of these fields.

Distributive Occupations: Finance, Insurance, Management and Supervision, Real Estate, Merchandising, Transportation and Traffic Management, Estate and Wills, General Business

Office Occupations: Accounting, Business Data Processing, Business Machines, Law, General Business, Secretarial Science, and Investments

‡ELECTIVES	40

(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.

Total 170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

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†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

FINE ARTS AND MUSIC

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition (Prerequisite: 20 semester periods of English courses which include composition)	5		
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			40
Required Courses: The major sequence may be completed by any courses that carry credit and are listed in the Music or Fine Arts section of the Catalog of Authorized Subjects for Adult Schools with no fewer than 10 semester periods in either field.			
‡ELECTIVES			40
(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.			
		Total	170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

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†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

GENERAL MAJOR

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition (Prerequisite: 20 semester periods of English courses which include composition)	5		
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE Required Courses: The major sequence may be completed by any courses that carry credit and are listed in any two sections of the Catalog of Authorized Subjects for Adult Schools with no fewer than 10 semester peroids in either field.			40
‡ELECTIVES (Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.			40
		Total	170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

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†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

HOMEMAKING MAJOR

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition	5		
(Prerequisite: 20 semester periods of English courses which include composition)			
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			40
Required Courses: Any courses that carry credit and are listed in the Homemaking or Parent Education section of the Catalog of Authorized Subjects for Adult Schools.			
‡ELECTIVES			40
(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.			Total 170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

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†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

INDUSTRIAL EDUCATION

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition (Prerequisite: 20 semester periods of English courses which include composition)	5		
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			50
Required Courses:			
Drafting 1-2 or Drafting 1 & Blueprint Reading		10	
Industrial Mathematics 1-2 or equivalent		10	
The following courses must be selected from the Apprenticeship or Trade and Technical section of the Catalog of Authorized Subjects for Adult Schools. Six semesters in one area, or a combination of four semesters in one area and two semesters in a second, or a combination of two semesters each in three areas		30	

Aero Space
Automotive
Building Construction
Drafting and Design
Electrical and Electronics
Graphic Arts
Metal
Personal and Public Service
Supervision
Textile and Apparel
Woodworking

‡ELECTIVES		30
(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.	Total	170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

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†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

SECRETARIAL MAJOR

			Semester Periods
BASIC CURRICULUM			90
ENGLISH		35	
English 1-2	10		
English 3-4	10		
†Advanced Grammar and Composition	5		
(Prerequisite: 20 semester periods of English courses which include composition)			
‡English electives	10		
*SOCIAL SCIENCES		25	
United States History 1-2	10		
United States Government 1 (Civics)	5		
Choice of: United States Government 2 Contemporary American Problems and Government World Affairs and Government	5		
‡Social Science electives (Example: Economics)	5		
MATHEMATICS — SCIENCE		30	
**10th-grade mathematics or above	10		
10th-grade laboratory science or above	10		
‡Mathematics or science electives	10		
MAJOR SEQUENCE			50
Required Courses:			
Typing 1, 2, 3, 4	20		
Shorthand 1, 2	10		
Business English	5		
Business Machines	5		
Office Procedures	5		
Business Mathematics	5		
‡ELECTIVES			30
(Excluding physical education) Subjects selected by the student on the basis of his interest, aptitude, or occupational background.		Total	170

A minimum of 15 semester periods of credit must be completed in residence at the adult school granting the diploma. A minimum of 130 semester periods must be earned in courses above the 9th-grade level. Instruction in the principles of first aid is required.

†Must be taken in residence.
‡9th-grade or above.
*Must include local and California history and government.
**9th-grade Algebra is acceptable. Bookkeeping does not meet this requirement.

EIGHTH-GRADE DIPLOMA

Adults may become eligible to receive the eighth-grade diploma in an adult school by meeting the following requirements:

1. Achieving an average grade placement score of not less than 9.0 on an approved standardized test battery consisting of Language, Mathematics, and Reading.
2. Passing an examination in United States History, United States Government, and local and California history and government.
3. Completing 150 classroom hours in residence, which may be earned in elementary subjects, high school subjects, or a combination of both.

VETERANS' SERVICE ACTS

An honorably discharged United States veteran of World War II or Korean Conflict may qualify for a high school diploma by satisfying all of the following conditions:

1. Active service not less than 90 days within one of the following periods: December 7, 1941—December 31, 1946 or June 27, 1950—January 31, 1955.
2. Completion of General Education Development Tests (high school level) prepared by the American Council on Education, with an average standard score of 45 or above on the five tests in the battery and with a standard score of 35 or above on each of the five tests in the battery.
3. Meet the California State Legal requirements for 20 semester periods in United States History, United States Government, and local and California history and government.
4. Earn a minimum of fifteen semester periods of class work credit in residence in the adult school granting the diploma.
5. File with the school counselor a full size photostatic copy of the "Report of Separation from the Armed Forces of the United States."

G.E.D. TESTING PROGRAM FOR NON-VETERANS

REQUIREMENTS FOR HIGH SCHOOL GRADUATION

1. An adult student must earn 170 semester periods of credit as listed in the Adult School Graduation Requirements to receive a high school diploma. It is possible for him to earn up to one-half of these credits by successfully passing certain tests, by work achievement, or by a combination of both.

2. A maximum of 85 credits may be earned by passing the G.E.D. tests with a standard score of 45 or above on each of the five tests in the battery.
3. The maximum credit allowed in each subject area tested, depending on the needs of the student, is as follows:
   - English—25 of the 35 required
   - Social Science—15 elective credits
   - *Science—10 of the 20 required
   - Literature—15 elective credits
   - Mathematics—10 to 20 of the 20 required
4. Students participating in this program must be at least 21 years of age during the school year in which they take the tests.
5. When necessary students may repeat tests after 6 months for the purpose of improving their scores.

NEW VETERANS' SERVICE ACT

An honorably discharged United States veteran who completed his term of service between February 1, 1955 and up to and including the Vietnam Conflict may qualify for a high school diploma program. For details, he should consult his nearest adult school principal or counselor.

MAKE AN APPOINTMENT NOW WITH A COUNSELOR
IN YOUR NEAREST ADULT SCHOOL

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*Does not meet the laboratory science requirement.

CERTIFICATE PROGRAMS

BUSINESS EDUCATION CERTIFICATE PROGRAM

A Certificate of Proficiency issued by the Adult Education Branch of the Los Angeles City Schools certifies that a student is considered vocationally competent in the General Office or Secretarial fields. It indicates that the student is prepared for employment in these areas.
Certificate of Proficiency has the following values:

1. Indicates that the student has followed and completed successfully a recommended sequence of courses.
2. Indicates that the student has employable skills. Proficiency tests must be passed with an acceptable score in order to receive a certificate.
3. Gives confidence to the student seeking employment because he has evidence of his vocational achievements.
4. Assists employers in evaluating job competency of prospective employees.
5. Helps the employee who is seeking retraining to concentrate on necessary skills and secure evidence of recent training and proficiency.

GENERAL OFFICE CERTIFICATE

A. Required Courses:
   - Typewriting 1, 2, 3
   - Bookkeeping 1
   - Business English
   - Business Mathematics
   - Business Machines
   - Office Procedures

B. One of the following courses:
   - Business Law
   - Bookkeeping 2
   - Civil Service Preparation
   - Typing 4
   - Investments
   - Business Data Processing

C. Successful performance on a proficiency examination in:
   - Typewriting
   - Correct English Usage
   - Office Procedures

SECRETARIAL CERTIFICATE

A. Required Courses:
   - Typewriting 1, 2, 3
   - Shorthand 1, 2, 3
   - Business English
   - Office Procedures
   - Business Mathematics or Bookkeeping
   - Business Machines

B. One of the following courses:
   - Business Law
   - Typewriting 4
   - Civil Service Preparation
   - Investments
   - Business Data Processing

C. Successful performance on a proficiency examination in:
   - Typewriting
   - Shorthand and Transcription
   - Correct English Usage
   - Office Procedures

THE DRAFTING CERTIFICATE PROGRAM

The drafting certificate program consists of a planned series of classes organized through the combined efforts of industry and the adult school for the purpose of providing sufficient skills for employment.

A drafting certificate will be awarded after the satisfactory completion of the option selected. He must prove his proficiency in each subject by passing a written and performance test with a grade of "B" or better.

MACHINE DRAFTING OPTION

Basic Drafting 1
Basic Drafting 2
Mechanical Drafting 1
Mechanical Drafting 2
Industrial Mathematics 1
Industrial Mathematics 2
Machine Shop 1
Machine Shop 2
Machine Drafting Detailing
Electro-Mechanical Drafting

ARCHITECTURAL DRAFTING OPTION

Basic Drafting 1
Basic Mathematics 1
Basic Mathematics 2
Architectural Drafting 1
Architectural Drafting 2
Architectural Drafting 3
Architectural Drafting 4
Architectural Drafting 5
Building Codes
*Building Construction Estimating

*Elective

THE REAL ESTATE CERTIFICATE PROGRAM

The real estate certificate program consists of a group of classes organized in cooperation with an advisory committee composed of leaders in the real estate field and teachers in the real estate program.

Objectives:

1. To provide opportunities for real estate salesmen and brokers to improve their competency on the job.
2. To provide training for adults preparing to enter the real estate business.
3. To award a certificate in recognition of successful completion of a program in real estate.

CERTIFICATE REQUIREMENTS

A. A minimum of five courses and 220 course hours. (An additional course is required when the total hours of instruction in the five courses does not total 220 hours).

B. Required Courses:

Real Estate Law 1
Real Estate Appraisal 1
Real Estate Sales
Real Estate Finance

C. One of the following courses are required:

Property Management
Apartment House Law & Management
Escrow Practices
Condominiums
Business Law
Sales Psychology
Sales Speech
Public Speaking
Bookkeeping

A certificate in real estate will be awarded after successful completion of the requirements. Students must earn a grade of "B" or better and successfully pass a proficiency test for each required course.

REQUIREMENTS TO QUALIFY FOR HIGHER EDUCATION

COLLEGES AND UNIVERSITIES

REQUIREMENTS FOR ADMISSION TO FRESHMAN STANDING IN THE UNIVERSITY OF CALIFORNIA

Graduation from high school.

Subject Requirements	Sem.	College Units
a) United States History	2	1
b) English (May include 9th grade)	6	3
c) Mathematics Algebra 2 semesters (May include 9th grade) Geometry 2 semesters	4	2
d) Science (11th or 12th grade college preparatory laboratory science in the same subject)	2	1
e) Foreign Language (In the same language; may include 9th grade)	4	2
f) Additional requirements in one of the following: Science (Chemistry or Physics in addition to d above) Mathematics Foreign Language (Either one additional year in the above language, or two years of a different language)	2	1

Additional elective units to complete the minimum of 15 standard entrance units are also required.

SCHOLARSHIP REQUIREMENTS

An average mark of B in the (a) to (f) subjects listed above taken in the 10th, 11th, and 12th grades. A grade of A in one course may be used to balance a C in another, but may not compensate for a D or F.

RECOMMENDED SUBJECTS

For high school subjects recommended for a particular major to be undertaken at the University, consult the *Prerequisite and Recommended Subjects* publication of the Office of Relations with Schools of the University.

CALIFORNIA STATE COLLEGES

REQUIREMENTS FOR ADMISSION TO FRESHMAN STANDING

1. High school graduation and a minimum eligibility index established each year by the Chancellor of the State College System. This is based on a combination of high school grades and a score on the American College Test or the Scholastic Aptitude Test, whichever is selected by the president of the college.

   or

2. Probability of academic success, if 21 years of age or older, on the basis of ability and experience.

RECOMMENDED PREPARATION

While no high school course pattern is required, the following subjects are recommended:

English	3 units
Algebra and Geometry	2
Foreign Language	2
Laboratory Science	1
Social Science (U.S. History and Civics)	1
Speech, music, art, and other subjects contributing to general academic background	

For additional information, students should consult the catalogs of individual colleges. Those in the Los Angeles area are:

California State College at Los Angeles
5151 State College Drive
Los Angeles, California 90032

California State College at Long Beach
6101 East Seventh Street
Long Beach, California 90804

California State College at Palos Verdes
27608 Silver Spur Road
Palos Verdes Peninsula, California 90274

San Fernando Valley State College
18111 Nordhoff Street
Northridge, California 91326

LOS ANGELES JUNIOR COLLEGES

ADMISSION REQUIREMENTS

To be admitted to a college in the Los Angeles City School District, an applicant must be a high school graduate *or* must be 18 years of age or older and capable of profiting from the instruction offered.

An application for admission and a high school transcript must be filed with the individual college in advance of registration. Specific dates for filing applications are published each year.

DEGREES AND CERTIFICATES

By completing graduation requirements, junior college students may earn a degree of Associate in Arts or Associate in Science. The equivalent of two years full-time college course work is required for a degree. (A student may carry less than a full-time study load in day or evening classes over a longer period if he wishes.)

Certificates are awarded on completion of certain occupational curricula which require less than two years of study.

CURRICULA

The colleges of the Los Angeles District offer two general types of curricula:

1. *Transfer programs* in which a student may complete the freshman and sophomore years of a bachelor's degree program, then take the junior and senior years at a four-year college or university.

   A student who does not qualify for admission in freshman standing in a four-year college because of high school grades or subject deficiencies, may qualify for admission in advanced standing if he takes appropriate junior college courses and earns an acceptable academic record.

II. *Occupational curricula* in which students learn specific skills while augmenting general education background.

   More than 300 one-year, two-year, and apprenticeship programs are offered by the colleges of the District. These include the following general occupational classifications:

   - Agriculture
   - Apparel
   - Art
   - Building
   - Business
   - Communications
   - Foods
   - Electronics
   - Mechanical
   - Para-medical
   - Personal Service
   - Public Service

For additional information, students should consult the catalog and counselors of any of the colleges in the District:

Los Angeles City College
855 North Vermont Avenue
Los Angeles, California 90029

East Los Angeles College
5357 East Brooklyn Avenue
Los Angeles, California 90022

Los Angeles Harbor College
1111 Figueroa Place
Wilmington, California 90744

Los Angeles Pierce College
6201 Winnetka Avenue
Woodland Hills, California 91364

Los Angeles Trade-Technical College
400 West Washington Boulevard
Los Angeles, California 90015

Los Angeles Valley College
5800 Fulton Avenue
Van Nuys, California 91401

Between 1966 and 1970 three additional colleges are expected to open:

West Los Angeles campus, Culver City

South Central campus, Los Angeles (Imperial and Western Avenues)

Northwest Valley campus, Northridge

OTHER COLLEGES

Students planning to enter other colleges and universities should, early in their adult high school career, consult the catalogs of those colleges for their entrance requirements and recommended preparation. Students usually enter these institutions by:

1. Presenting evidence of adult high school graduation and a transcript of work done.
2. Passing an entrance examination, such as that of the College Entrance Examination Board.
3. Both transcript and examination.

SCHOOL CALENDAR FOR 1966-67

FALL SEMESTER

September 19, 1966 to February 3, 1967

First Semester Begins and School Opens	Sept. 19, 1966
Veterans' Day (Legal Holiday)	Nov. 11
Thanksgiving Holidays	
Thanksgiving Day (Legal Holiday)	Nov. 24
School Holiday	Nov. 25
Christmas Vacation	Dec. 19 to Jan. 2, incl.
First Semester Ends and School Closes	February 3, 1967

SPRING SEMESTER

February 6, 1967 to June 16, 1967

Second Semester Begins and School Opens	Feb. 6, 1967
Lincoln's Birthday (Sunday, February 12) Observe Monday (Legal Holiday)	Feb. 13
Washington's Birthday (Legal Holiday)	Feb. 22
Easter Vacation (Easter Sunday, March 26)	March 20 to March 24. incl.
Memorial Day (Legal Holiday)	May 30
Second Semester Ends and School Closes	June 23, 1967

SUMMER SESSION, 1966

Six-Week Summer Session: July 1, 1966 to August 12, 1966

LIST OF ADULT SCHOOLS

BANNING ADULT SCHOOL	1500 N. Avalon Blvd.	834-2343
	Wilmington 90744	834-2237
BELMONT ADULT SCHOOL	1575 W. Second St.	626-8197
	Los Angeles 90026	626-2381
CAMBRIA ADULT SCHOOL	1510 Cambria St.	483-4992
Foreign Student Dept.	Los Angeles 90017	483-4993
Instructional Materials Center		483-4995
High School Dept.	1205 W. Pico Blvd.	747-0109
	Los Angeles 90015	747-0100
DORSEY ADULT SCHOOL	3537 Farmdale Ave.	291-1514
	Los Angeles 90016	291-5085
FAIRFAX ADULT SCHOOL	7850 Melrose Ave.	653-4085
	Los Angeles 90046	653-2414
FRANKLIN ADULT SCHOOL	820 North Avenue 54	256-2144
	Los Angeles 90042	256-2145
FREMONT ADULT SCHOOL	7676 S. San Pedro St.	751-0891
	Los Angeles 90003	751-2919
GARDENA ADULT SCHOOL	1301 W. 182nd St.	323-2686
	Gardena 90247	323-2687
GARFIELD ADULT SCHOOL	5101 E. 6th St.	262-5163
	Los Angeles 90022	262-5164
HOLLYWOOD ADULT SCHOOL	1521 N. Highland Ave.	469-8668
	Los Angeles 90028	469-5073
HUNTINGTON PARK ADULT SCHOOL	6020 Miles Ave.	581-7720
	Huntington Park 90256	581-2820
JEFFERSON ADULT SCHOOL	1319 East 41st St.	231-7701
	Los Angeles 90011	231-1924
JORDAN ADULT SCHOOL	2265 East 103rd St.	569-6361
	Los Angeles 90002	569-8619

LINCOLN ADULT SCHOOL	3501 N. Broadway Los Angeles 90031	222-5204 222-7600
LOS ANGELES ADULT SCHOOL	4600 W. Olympic Blvd. Los Angeles 90019	933-8437 933-8438
MANUAL ARTS ADULT SCHOOL	4131 S. Vermont Ave. Los Angeles 90037	234-1755 234-9557
NORTH HOLLYWOOD ADULT SCHOOL	5231 Colfax Ave. North Hollywood 91601	766-8186 766-8247
OCCUPATIONAL TRAINING CENTER	6200 Winnetka Avenue Woodland Hills 91364	346-3540 346-3541
RESEDA ADULT SCHOOL	18230 Kittridge St. Reseda 91335	343-1977 343-1978
ROOSEVELT ADULT SCHOOL	450 S. Fickett St. Los Angeles 90033	269-4300 268-7261
SAN FERNANDO ADULT SCHOOL	11133 O'Melveny Ave. San Fernando 91340	365-2559 365-2558
SAN PEDRO ADULT SCHOOL	1001 West 15th St. San Pedro 90731	833-3361 833-2977
SOUTH GATE ADULT SCHOOL	3351 Firestone Blvd. South Gate 90280	569-4187 569-4041
UNIVERSITY ADULT SCHOOL	11800 Texas Ave. Los Angeles 90025	477-2084 477-2085
VAN NUYS ADULT SCHOOL	6535 Cedros Ave. Van Nuys 91409	785-5427 785-5428
VENICE ADULT SCHOOL	13000 Venice Blvd. Los Angeles 90066	398-8260 398-9788
WASHINGTON ADULT SCHOOL	10860 S. Denker Ave. Los Angeles 90047	754-0666 754-1183
WESTCHESTER ADULT SCHOOL	7400 W. Manchester Los Angeles 90045	670-0443 776-0111

AUTHORIZED SUBJECTS

1-299 ACADEMIC EDUCATION

SUBJECT NO. *1-49 ENGLISH*

1.1 **English 1**

Grammar and usage; development of effective sentences; spelling; punctuation; practical written English for daily use. Equivalent to B9 English.

(5 semester periods)

1.2 **English 2**

Continuation of English 1; punctuation, capitalization, spelling, and vocabulary building; elements of good sentence structure and expression in letters and other written work. Equivalent to A9 English.
Prerequisite: English 1 or equivalent.

(5 semester periods)

1.3 **English 3**

Application and review of grammar and sentence structure learned in English 1 and 2; advanced study of oral and written expression; concise use of words and expressions; elimination of common errors in speech and writing; vocabulary building; punctuation and capitalization. Equivalent to B10 English.
Prerequisite: English 2 or equivalent.

(5 semester periods)

1.4 **English 4**

Refinement of skills in composition and letter writing; effective speech and pronunciation; conciseness and clarity in choice of words and expressions; review of grammar, punctuation, capitalization, and spelling. Equivalent to A10 English.
Prerequisite: English 3 or equivalent.

(5 semester periods)

5.1 **Grammar and Composition—(Intermediate)**

Composition skills with emphasis on grammar; sentence structure; vocabulary building; punctuation; spelling; improving reading skills through comprehension.

(5 semester periods)

5.2 **Grammar and Composition—(Advanced)**

Review of fundamentals of grammar; sentence structure; good usage; vocabulary building; punctuation; spelling; pronunciation; emphasis on composition.
Prerequisite: English 4 or equivalent.

(5 semester periods)

7 **English Review and Reading Improvement**

Developing and improving the techniques of speaking, reading and writing the English language; emphasis on practical usage.

(10 semester periods)

SUBJECT NO.

10 **American Literature**

Extensive reading in American literature, past and present; critical evaluation and discussion of material read; improvement of reading speed and comprehension; history of American literature; types of literature; development of appreciation for our American literary heritage.

(5 semester periods)

13 **English Literature**

Selected reading in English literature, past and present; analysis and discussion of outstanding works; contributions of literature to the thinking, ideals, and arts of today; study of various types of prose and poetry, and their contributions to our literary heritage.

(5 semester periods)

16 **Modern Literature**

Selected reading in various types of modern literature; study and development of appreciation for the novel, the short story, poetry, and essay; modern trends in literature; influence of literary works on contemporary life; literature of motion pictures, television, and radio.

(5 semester periods)

19 **World Literature**

Selected reading in literature of other countries; contributions of other lands to our intellectual and artistic heritage; reading, analysis, and discussion of outstanding works.

(5 semester periods)

21.1 **Journalism 1**

Newswriting; interviewing; privileges and responsibilities of the press; the place of the newspaper in the world of today.

(5 semester periods)

21.2 **Journalism 2**

Continuation of Journalism 1; newswriting; journalistic practices; editorial and feature writing; proofreading; makeup; headline writing; privileges and responsibilities of the press. Prerequisite: Journalism 1 or equivalent.

(5 semester periods)

22 **Library Fundamentals**

Introduction to library organization, services, procedures, practices; offers specific instruction in the work of sub-professional library personnel; emphasizes the value of careers in librarianship.

(2½ semester periods)

SUBJECT NO.

27 **Lip Reading**

Demonstration of vibration; exercises in formation of speech sounds; practice in lip reading; voice placement and tone improvement.

(5 semester periods)

28 **Finger Spelling and Sign Language**

Manual alphabet and manual signs for use in communication among deaf and hard of hearing persons.

(5 semester periods)

30 **Power Reading**

Rapid reading techniques and reading skills; use of motion pictures, tachistoflasher, controlled reading films, reading laboratories, and extensive vocabulary exercises; speed reading trials and individual reading.

(5 semester periods)

33 **Semantics**

Intensive study of the meanings of the elements of human communication; significances attached to words and forms; development of more accurate expression and greater understanding.

(5 semester periods)

36 **Writing for Publication**

Special techniques of the short story; form and style in writing articles; study of markets; writing for special journals and magazines; advice and constructive criticism of student writings.

(5 semester periods)

39 **Writing for Radio, Television, and Motion Pictures**

Special techniques of writing for radio, television, and motion pictures; types of material most in demand; methods of marketing material; constructive criticism of student efforts.

(5 semester periods)

50-89 LANGUAGES

51 **Chinese**

Introduction to Chinese; basic Chinese sounds with correct pronunciation and pitch; sentence structure; reading and writing Chinese characters; simple conversation; syntax necessary for correct usage.

(5 semester periods)

54.1 **French 1**

Introduction to current French; correct pronunciation and enunciation; basic speech patterns; practical vocabulary; syntax necessary for simple oral and written French.

(5 semester periods)

SUBJECT NO.

54.2 **French 2**

Continuation French 1; practical vocabulary of daily and travel expressions; continued study of syntax necessary for accurate spoken and written French.
Prerequisite: French 1 or equivalent.

(5 semester periods)

54.3 **French 3**

Increased proficiency in oral and written use of French; review of syntax; reading and discussion of simple stories; French customs and manners.
Prerequisite: French 2 or equivalent.

(5 semester periods)

54.4 **French 4**

Intensive drill on French idioms and syntax; oral and written compositions; continued study of cultural background; introduction to literature.
Prerequisite: French 3 or equivalent.

(5 semester periods)

57 **French Conversation**

Intensive practice in speaking French to develop oral facility and aural comprehension; special attention to articulation, enunciation, and rhythm; vocabulary building of practical and idiomatic expressions; spontaneous expression of ideas in group discussions.
Prerequisite: French 2 or equivalent.

(10 semester periods)

60.1 **German 1**

Introduction to German; correct pronunciation and enunciation; basic speech patterns; practical vocabulary of daily expressions and idioms; syntax necessary for simple oral and written German.

(5 semester periods)

60.2 **German 2**

Continuation of German 1; practical vocabulary of daily and travel expressions; continued study of syntax necessary for accurate spoken and written German.
Prerequisite: German 1 or equivalent.

(5 semester periods)

60.3 **German 3**

Increased proficiency in oral and written use of German; review of syntax; reading and discussions of simple stories; customs and manners of German-speaking people.
Prerequisite: German 2 or equivalent.

(5 semester periods)

SUBJECT NO.

60.4 **German 4**

Intensive drill on German idioms and syntax; expansion of vocabulary related to travel and science; oral and written composition; continued study of cultural background; introduction to literature.
Prerequisite: German 3 or equivalent.

(5 semester periods)

63 **German Conversation**

Intensive practice in speaking German to develop oral facility and aural comprehension; special attention to articulation, enunciation, and rhythm; vocabulary building of practical and idiomatic expressions; spontaneous expression of ideas in group discussions.
Prerequisite: German 2 or equivalent.

(10 semester periods)

66.1 **Hebrew 1**

Introduction to Hebrew; alphabet and vowels; correct pronunciation and enunciation; vocabulary development for practical use; practice in elementary reading; syntax necessary for simple oral and written expression.

(5 semester periods)

66.2 **Hebrew 2**

Continuation of Hebrew 1; expansion of vocabulary; additional practice in speaking, reading, and writing; continued study of syntax necessary for accurate oral and written expression; introduction to classical Hebrew literature and contemporary publications; information on the history and culture of present-day Israel.
Prerequisite: Hebrew 1 or equivalent.

(5 semester periods)

69 **Italian**

Introduction to current Italian; correct pronunciation; practical vocabulary; conversation, reading, and writing; fundamentals of grammar for simple oral and written expression. Information on customs, manners, and literature.

(10 semester periods)

72 **Japanese**

Introduction to Japanese; basic Japanese sounds with correct pronunciation and pitch; sentence structure; reading and writing of "Hiragana" and "Katakana"; simple conversation; syntax necessary for correct usage.

(10 semester periods)

75 **Norwegian**

Introduction to Norwegian; basic Norwegian sounds with correct pronunciation and pitch; sentence structure; fundamentals of grammar for simple oral and written expression. Information on customs, manners, and literature.

(10 semester periods)

SUBJECT NO.

78 **Russian**

Introduction to Russian; pronunciation of Russian sounds; Russian script; simple sentence structure; syntax necessary for correct oral and written expression; practice in speaking, reading, and writing; information on customs, manners, and literature.

(10 semester periods)

79 **Serbo-Croatian**

Introduction to Serbo-Croatian (Yugoslav); correct pronunciation, practical vocabulary; simple idioms; syntax necessary for correct oral and written expression; practice in speaking, reading, and writing; information on customs, manners, and literature; study of both Roman and Cyrillic alphabets.

(10 semester periods)

81.1 **Spanish 1**

Introduction to current Spanish; correct pronunciation; basic speech patterns; practical vocabulary of daily expressions and idioms; grammar necessary for simple oral and written Spanish.

(5 semester periods)

81.2 **Spanish 2**

Continuation of Spanish 1; practical vocabulary of useful daily and travel expressions; syntax necessary for accurate written and spoken Spanish.
Prerequisite: Spanish 1 or equivalent.

(5 semester periods)

81.3 **Spanish 3**

Increased proficiency in oral and written use of Spanish; reading and discussion of simple stories; review of syntax; customs and manners of Spanish-speaking people.
Prerequisite: Spanish 2 or equivalent.

(5 semester periods)

81.4 **Spanish 4**

Reading and discussion of current topics from Spanish language newspapers, magazines, and short stories; intensive drill on Spanish idioms and syntax; oral and written compositions; continued study of cultural backgrounds; introduction to literature.
Prerequisite: Spanish 3 or equivalent.

(5 semester periods)

84 **Spanish Conversation**

Intensive practice in speaking Spanish to develop oral facility and aural comprehension; special attention to articulation, enunciation, and rhythm; vocabulary building of practical and idiomatic expressions; spontaneous expression of ideas in group discussions.
Prerequisite: Spanish 2 or equivalent.

(10 semester periods)

SUBJECT NO.

85 **Sociological Aspects of Interviewing in Spanish**

Techniques needed by social welfare personnel to converse with the non-English speaking client. Special emphasis is given to the recognition of cultural differences as they affect the interview.

(5 semester periods)

86 **Swahili**

Introduction to Swahili; correct pronunciation; practical vocabulary; simple idioms; syntax necessary for correct oral and written expression; practice in speaking, reading and writing; customs, manners, literature.

(5 semester periods)

87 **Swedish**

Introduction to Swedish; pronunciation and rhythm; practical vocabulary; simple idioms; syntax necessary for correct oral and written expression; practice in speaking, reading, and writing; information on customs, manners, and literature.

(10 semester periods)

88 **Tagalog**

Introduction to Tagalog (Philippine); correct pronunciation, practical vocabulary; simple idioms; syntax necessary for correct oral and written expression; practice in speaking, reading, and writing; information on customs, manners, and literature. Official language of the Republic of the Philippines.

(10 semester periods)

90-129 MATHEMATICS

91.1 **Algebra 1**

Positive and negative numbers; simple equations; formulas; polynomials.
Prerequisite: Basic Mathematics or equivalent.

(5 semester periods)

91.2 **Algebra 2**

Continuation of Algebra 1; review of fundamentals; equations; factoring; radicals; simple quadratics.
Prerequisite: Algebra 1 or equivalent.

(5 semester periods)

91.3 **Algebra 3**

Review of Algebra 2; products and factors; fractions; simultaneous equations; powers and roots; quadratic equations.
Prerequisite: Algebra 2 or equivalent.

(5 semester periods)

SUBJECT NO.

91.4 Algebra 4

Systems of equations; graphs; ratios; proportions and variations; numerical trigonometry.
Prerequisite: Algebra 3 or equivalent.

(5 semester periods)

92 Arithmetic Review

Review of number combinations in addition, subtraction, multiplication, and division.

(5 semester periods)

94.1 Basic Mathematics 1

Addition, subtraction, multiplication, division of whole numbers, fractions, and decimals; per cent; square root.

(5 semester periods)

94.2 Basic Mathematics 2

Continuation of Basic Mathematics 1; review of fundamentals; area and volume of geometric figures; measurements; metric system; algebra of simple formulas.
Prerequisite: Basic Mathematics 1 or equivalent.

(5 semester periods)

96 Introduction to Modern Mathematics

New concepts of modern mathematics, including structure and application through discovery methods; mathematical patterns. Less emphasis on computation and more on the "why" of problem-solving.

(5 semester periods)

97 High School Mathematics

Functional uses of arithmetic, percentage, measurement, and consumer mathematics; understanding number concepts, use of formulas, estimation, and simple statistical graphs; space perception; intuitive geometry, informal trigonometry, the metric system, application of mathematical principles to the solution of practical problems.

(5 semester periods)

100 Industrial Algebra

Application of algebra to trade problems; equations and formulas; graphical representation; logarithms.
Prerequisite: Industrial Mathematics or equivalent.

(5 semester periods)

103 Industrial Descriptive Geometry

Application of descriptive geometry to trade problems; fundamentals; orthographic projection; plotting of points and lines; line directions; true length of lines and planes; trade

SUBJECT NO.

problems relating to points; planes and solids; intersection and development of surfaces; revolutions and counter revolutions.
Prerequisite: Industrial Trigonometry or equivalent.

(5 semester periods)

106.1 **Industrial Mathematics 1**

Application of mathematics to trade problems; review of arithmetic and fundamental operations in algebra and geometry.

(5 semester periods)

106.2 **Industrial Mathematics 2**

Application of mathematics to trade problems; principles of geometry, shop trigonometry, logarithms; use of slide rule.
Prerequisite: Industrial Mathematics I or equivalent.

(5 semester periods)

109 **Industrial Trigonometry**

Applications of trigonometry to trade problems; angles and functions of angles; the right triangle; functions of angles of any magnitude; functions of two angles; sine and cosine laws.

(5 semester periods)

112.1 **Plane Geometry 1**

Basic concepts; postulates, axioms.
Prerequisite: Algebra 1 and 2 or equivalent.

(5 semester periods)

112.2 **Plane Geometry 2**

Continuation of Plane Geometry 1; review of basic concepts; problem solving; circles; measurements; logic; proportions.
Prerequisite: Plane Geometry 1 or equivalent.

(5 semester periods)

115 **Slide Rule**

The theory of the slide rule; problems involving multiplication, division, squares, cubes, square root and cube root; application to trigonometric and logarithmic problems.

(2½ semester periods)

118 **Solid Geometry**

Three-dimensional geometry; polyhedrons; prisms; cylinders; pyramids; cones; spheres.
Prerequisite: Plane Geometry 2 or equivalent.

(5 semester periods)

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121 **Trigonometry**

Functions of acute angles; logarithms; solution of right and oblique triangles; trigonometric and logarithmic tables.
Prerequisites: Algebra 3 and Plane Geometry 1 and 2 or equivalent.

(5 semester periods)

124 **Mathematical Analysis**

Introduces analytical methods by means of a study of fundamental definitions and theorems; the line; equation and locus; conic sections; algebraic curves of higher degree; basic concepts of space geometry.
Prerequisites: Algebra 4, Trigonometry, or equivalent.

(5 semester periods)

130-184 SCIENCES

131 **Applied Chemistry**

Foods and nutrition; vitamins; preservation of food; textiles; removal of stains; drugs and medicines; cosmetics; paints; water purification; photography; laboratory experiments.
Prerequisites: Chemistry 1, General Science 1 and 2, or equivalent.

(5 semester periods)

134.1 **Chemistry 1**

Structure and classification of matter; oxygen; hydrogen; solutions; acids, bases, and salts; ionization; valences; formulas; balancing equations; periodic table; problems involving laws of chemistry; laboratory experiments.

(5 semester periods)

134.2 **Chemistry 2**

Continuation of Chemistry 1; important elements; non-metals; light and heavy metals; atomic reactions; food; clothing; drugs; cosmetics; latest chemical developments; laboratory experiments.
Prerequisite: Chemistry 1 or equivalent.

(5 semester periods)

137 **General Science**

Introduction to science; living things; structures, habits, and use of plants; animals; the human body; diseases; diet; nature of matter; air; water; weather; the sun and its planets; the earth; magnetism and electricity; conservation of natural resources.

(5 semester periods)

140.1 **Biology 1**

Health; hygiene; parts and functions of the body; reproduction; first aid; alcohol and genetics.

(5 semester periods)

SUBJECT NO.

140.2 **Biology 2**

Continuation of Biology 1; structure, production, conservation, and use of plants; evolution; genetics; behavior, use and conservation of animals.
Prerequisite: Biology 1 or equivalent.

(5 semester periods)

141 **Marine Biology**

A general survey course of the many marine environments, of the varied animal species that live in the sea, and of the plants of the coastal waters.

(5 semester periods)

143.1 **Modern Science 1**

Application of science to the modern world; social implications; transportation facilities; machines in our homes; instruments of communication; understanding our universe; science in everyday life.

(5 semester periods)

143.2 **Modern Science 2**

Continuation of Modern Science 1 in its relationship to the modern world; contribution of photography, electricity, communications, machines, and air and space travel in everyday life.

(5 semester periods)

146.1 **Physical Science 1**

Measurements; matter and motion; forces; work and power; the automobile; the airplane; problems and laboratory experiments.

(5 semester periods)

146.2 **Physical Science 2**

Continuation of Physical Science 1; nature of sound, light, and electricity; telephone; radio; television; heating and refrigeration; air conditioning; chemistry in industry; problems and laboratory experiments.
Prerequisite: Physical Science 1 or equivalent.

(5 semester periods)

147 **Exploration of Space**

A non-technical course to stimulate and encourage the average person to increase his knowledge of space science; extensive readings on scientific discoveries and facts to illustrate the concepts that lie behind them.

(2½ semester periods)

148 **Earth Satellites and Interplanetary Vehicles**

Review of elements of orbital mechanics to permit understanding of the U. S. Space Program, of the solar system, of basic principles of trajectories and orbits, of propulsion, of

SUBJECT NO.

space environment, of life support systems and re-entry problems, and comparison and evaluation of current scientific space programs.

(5 semester periods)

149.1 **Physics 1**

Physical laws and principles; measurements; mechanics of gases; force; motion; machines; heat; problems and laboratory experiments.

(5 semester periods)

149.2 **Physics 2**

Continuation of Physics 1; electricity sound; light; radio; electronics; atomic energy; cosmic rays; problems and laboratory experiments.
Prerequisite: Physics 1 or equivalent.

(5 semester periods)

152.2 **Physiology 2**

Organs of the human body; bones, tissues, and muscles; dissection of living and non-living materials.

(5 semester periods)

152.2 **Physiology 2**

Continuation of Physiology 1; systems of the body; laboratory demonstrations; laboratory experiments.
Prerequisite: Physiology 1 or equivalent.

(5 semester periods)

158 **Commercialization of Mineral Resources**

General extraction and commercial uses of mineral materials of the earth; distribution, character, occurrence, and formation.

(5 semester periods)

161 **Fundamentals of Geology**

History of the earth; oceanic movements and temperature; atmospheric movements and temperature; constitution of rocks; condition, structure, and arrangement of rock masses; movements of the earth's crust.

(5 semester periods)

164.1 **Mineral Identification 1**

Physical, chemical, optical, and crystal properties of minerals; description, nomenclature, structure, and composition; methods of identification.

(5 semester periods)

SUBJECT NO.

164.2 **Mineral Identification 2**

Continuation of Mineral Identification 1; identification of minerals through their properties; physical, chemical, and optical laboratory techniques; valuation.

(5 semester periods)

166 **Mineralogy**

Identification of rocks; properties of composition, texture, and structure; examination of hand specimens; instruments.

(5 semester periods)

168 **Aeronautics**

History of aviation; theory of flight; airfoil and lift; drag; thrust and torque; gravity; stability; load factors; controls; instruments; operation and servicing of aircraft types; structure; identification and spotting.

(5 semester periods)

172 **Jet Propulsion**

Historical development of rockets; motive power principles; reaction motor types; control; jet propulsion; guided missles.

(5 semester periods)

178 **Aeronautical Navigation**

Use of charts; pilotage navigation; dead reckoning; celestial navigation; radio aids; radar. Prerequisite: Aeronautics or equivalent.

(5 semester periods)

179 **Aeronautics: Commercial - Instrument Ground School**

Preparation for commercial and instrument F.A.A. examinations; computer problems; flight and engine instruments; navigation review; meteorology and radio navigation.

(5 semester periods)

185-229 SOCIAL SCIENCES

186.1 **United States History 1**

Political, social, and economic development of the United States; discovery; colonial period; struggle for independence; establishment of constitutional government; the westward movement; sectionalism and the Civil War; personalities, ideas, and events in American history.

(5 semester periods)

186.2 **United States History 2**

Continuation of United States History 1; development of the United States from 1895 to

SUBJECT NO.

present; industrial expansion; foreign relations; the two world wars; the emergence of the United States as a world power; California history.
Prerequisite: U. S. History 1 or equivalent.

(5 semester periods)

188.1 **United States Government 1**

Legislative, executive, and judicial framework and functions of national, state, and local government; traditions, practices, and personalities; privileges and responsibilities of individuals under a demoncratic form of government; problems in California government.

(5 semester periods)

188.2 **United States Government 2**

A problem-solving approach to the study of United States government, including contemporary American problems, economics, international relations or current history; operation of state and local government.

(5 semester periods)

191 **Political Problems**

Historical and current political problems, both domestic and foreign; group discussions based upon films, recordings, and reading assignments.

(5 semester periods)

194 **Contemporary American Problems and Government**

Psychological, sociological, and economic aspects of life related to contemporary American problems in government.

(5 semester periods)

197 **United States Government and World Affairs**

International, national, and local events; interpretations from backgrounds of geography, history, and social sciences as they affect our government.

(5 semester periods)

200 **World Geography**

Physical, economic, and political aspects of important world areas; influences of geography on world problems and conditions.

(5 semester periods)

204.1 **World History 1**

Social, economic, and political history of mankind from the earliest civilization to 1800; contributions of past civilizations to modern life; persons and ideas that have influenced human progress.

(5 semester periods)

SUBJECT NO.

204.2 World History 2

Continuation of World History 1 from 1800 to the present; contributions of past civilizations to modern life; persons and ideas that have influenced human progress.
Prerequisite: World History 1 or equivalent.

(5 semester periods)

208 California History and Government

Survey of four centuries of California history, from early Indian period to present; reviews the wide variety of California geography, including topography, climate; involves study of political heritage and formation, changes, present structure of California government.

(5 semester periods)

209 American-Mexican History and Culture

A sketch of the culture of Mexico, including political and economic history, to develop a better understanding of the people, their problems, and the solutions to the problems. Takes into consideration the Mexican and Spanish migration to the United States and the problems that have resulted.

(5 semester periods)

210 Negro History

Political, social, and economic development of the Negro in the United States.

(5 semester periods)

211 Archeology of Mexico

Review of archeological discoveries, ranging from sites of early man or European contact locations to areas influenced by Mexican aboriginal cultures. Regions adjacent to present-day Mexico, both to the north and south, will be discussed with regard to past interplay of cultures. In addition to archeological data, information from surviving aboriginal cultures will be considered to afford an appreciation of Mexican culture and history and its bearing on present-day social organization.

(5 semester periods)

212 Philosophy and Society

Philosophies of various societies, their effect upon basic ideas, beliefs; stresses that man's philosophic viewpoints are active in nature and profoundly affect political, social, and family structures; demonstrates the relationship between philosophy and democracy.

(5 semester periods)

213 Applied Psychology

Investigation of human behavior as an aid to solving practical human problems; understanding of interests, aptitudes, desires, and "drives" in personal adjustment; psychology in human relations.

(5 semester periods)

SUBJECT NO.

216 **Social Psychology**

Application of principles of psychology to individual and social relationships; the family and its place in society; background and development of our society; psychology in human relations; coping with the problems of a changing social and cultural environment.

(5 semester periods)

217 **Ways of Mankind**

Exploration and study of the ways of mankind in relation to his culture, language technology, education, family, status, authority, values, religion, ethics, and society in general.

(2½ semester periods)

218 **Introduction to the Humanities**

Materials and forms out of which any single work of art is created; encouragement of the individual to enlarge his perceptions and appreciation of all the art form including literature, music, and the visual arts through a study of outstanding works from the entire broad field of the humanities.

(5 semester periods)

219 **Economics**

Characteristics and functioning of the economic system; production and distribution of wealth; laws of supply and demand; business organization; government regulations; labor problems; money and banking; business fluctuations.

(5 semester periods)

220 **Comparative Religions**

Introduction to the major religious movements which have existed for more than a century; furnishes a concise survey of the origin, the sacred scriptures, the historical development, and the contributions of the eleven major religions.

(5 semester periods)

221 **Contemporary Moral Issues**

Course content is divided into discussion topics, based upon assigned readings from the textbook and other collateral readings; expert knowledge and opinion will be introduced whenever possible, principally by inviting specialists in various fields to take part in the discussions.

(5 semester periods)

222 **Guidance**

Group diagnostic testing of students; aptitudes; mental ability; interest inventories; occupational opportunities; self-evaluation.

(5 semester periods)

SUBJECT NO.

230-249 SPEECH

231 **Public Speaking**

Fundamentals of effective public speaking; practice in organization and delivery; development of voice, vocabulary, diction, and poise; public address system techniques; elements of parliamentary procedure.

(5 semester periods)

234 **Advanced Speech**

Continuation of Public Speaking; review of fundamentals; parliamentary procedure; group discussion forums; the panel, forum, symposium, debate; interviews; analysis of the duties and responsibilities for effective speech of officers of civic, business, and professional organizations.
Prerequisite: Public Speaking or equivalent.

(5 semester periods)

237 **Speech Correction**

Physical and psychological aspects of speech; factors affecting individual speech; correction of individual speech problems by analysis, application, and practice; development of voice and vocabulary.

(5 semester periods)

240 **Principles of Drama**

History of drama; great plays and playwrights; principles of stage movement, voice projection and expression, and pantomime; acting of scenes and one-act plays with emphasis on voice and characterization.

(5 semester periods)

241 **Basic Acting Techniques**

Voice and voice qualities, voice tones, speech, diction, characters, concentration, poise, pantomime, dramatic construction, artistic feeling, inspiration, stage areas, stage direction, analysis of scenes; prepares actors for participation in little theater groups.

(5 semester periods)

243 **Play Production**

Techniques of acting in modern dramatic media; workshop experimentation in acting, staging, lighting, and costuming plays; study of theatrical make-up; production of a modern three-act play for public performance.
Prerequisite: Principles of Drama or equivalent.

(5 semester periods)

246 **Radio and Television Acting**

Microphone techniques; emphasis on voice characterization for radio; workshop in announcing, newscasting, interviewing, radio and television drama.

(5 semester periods)

300-699 BUSINESS EDUCATION

SUBJECT NO.

300-319 ACCOUNTING

301.1 **Bookkeeping 1**

Fundamentals of double-entry record keeping as applied to proprietorship; systematic recording of business transactions; use of journals and ledgers; sales and purchase transactions; banking; payrolls introduction to worksheets, statements, and closing entries.
Prerequisite: Business Mathematics or equivalent.

(5 semester periods)

301.2 **Bookkeeping 2**

Review of bookkeeping principles, combination journal, petty cash fund, problems relating to sales and purchases, payroll taxes and reports, depreciation of fixed assets, disposing of fixed assets, bad debts and accounts receivable, use of cash register, sales taxes and other sales and purchases transactions, notes and interest, and accrued expenses.

(5 semester periods)

304.1 **Accounting 1**

A survey of principles and practices of specialized business operations involving departmental and payroll accounting; worksheet adjustments for valuation accounts; accrued, deferred and prepaid items; and partnership accounting.
Prerequisites: Bookkeeping 1 and 2 or equivalent; Business Machines recommended.

(5 semester periods)

304.2 **Accounting 2**

Principles and practices of various types of controls and records used in business; corporation accounting; accounting for various types of sales; manufacturing accounting; and interpretation of accounting records.
Prerequisites: Bookkeeping 1 and 2; Accounting 1 or equivalent; Business Machines recommended.

(5 semester periods)

305 **Government Budget Preparation**

Elementary budget theory and practical applications in the preparation, execution, and control of a governmental budget.

(5 semester periods)

316.1 **Income Tax — Individuals**

State and federal income tax laws; problems associated with tax returns of individuals; practice in the preparation of tax forms.

(5 semester periods)

SUBJECT NO.

316.2 **Income Tax — Accountants**

State and federal tax laws for corporations, partnerships, estates, and trusts; advanced accounting procedures for accountants preparing returns for clients.

(5 semester periods)

320-339 BUSINESS DATA PROCESSING

321 **Key Punch**

Instruction and practice in the use of the alphabetic and numeric key punch machines; applications to business problems.
Prerequisite: Typing speed of at least 40 words a minute.

(5 semester periods)

322 **Introduction to Data Processing**

Orientation to data processing; the data processing cycle; development of methods, punched cards, systems, number systems, program control, programming systems.

(5 semester periods)

323 **Basic Data Processing Machine Operation**

Theory and practice of operation and basic programming of common punch card equipment; purpose of tabulating cards; uses and relationships of the following machines; interpreter, sorter, reproducer, collator, calculator, tabulator; flow charts; job timing.
Prerequisite: Introduction to Data Processing or approval of instructor.

(5 semester periods)

325.1 **Business Machine Wiring — 602 Machine**

Applications of each plug hub on the calculating punch.

(5 semester periods)

325.2 **Business Machine Wiring — 407 Machine and System Design**

Designed for the IBM operator who desires to learn the fundamentals of wiring a 407 Tabulator Board and to become acquainted with the basic concepts of designing an IBM punch card system.

(5 semester periods)

325.3 **Business Machine Wiring — 407 and 604 Machines**

Use of each group of plug hubs; control panel wiring; survey of typical wiring problems.
Prerequisties: 513, 519, 077, 552, 557 machine wiring or equivalent.

(5 semester periods)

327.1 **Electronic Computer Programming 1**

Principles of programming and operation of various types of electronic data processing

SUBJECT NO.

machines; job planning flow charts; block diagramming; programming; machine coding; console operation.

(5 semester periods)

327.2 **Electronic Computer Programming 2**

Principles of programming and operation; data processing; feasibility studies; job planning; charting and programming; demonstration and practice.

(5 semester periods)

329.1 **Electronic Computer Programming — 605 Machine**

Principles of programming and operation of the 605 Magnetic Drum Electronic Data Processing Machine; flow charting; block diagramming; programming; machine coding; console operation.

(5 semester periods)

329.2 **Electronic Computer Programming — Ramac 305 Machine**

Principles of programming and operation of the 305 Random Access Memory Accounting Machine; linear data processing; feasibility studies; job planning; charting and programming; demonstration and practice.

(5 semester periods)

329.3 **Electronic Computer Programming — 1401 & 1460 Machine (Beginning)**

Basic principles of programming of the IBM 1401 machine, a stored program system using both tape and card methods; machine components; flow charts; instruction format; operation codes; timing; checking; symbolic programming systems; autocoder; input-output control systems; console operation.

(5 semester periods)

331 **PERT and critical path method**

Introduction to the latest techniques in planning, scheduling, and control; practical training in PERT (Program Evaluation and Review Techniques) and CPM (Critical Path Method) as management processes; principles of planning for simple to complex data processing jobs, daily business problems, and construction projects.

(5 semester periods)

340-359 BUSINESS MACHINES

341.1 **Business Machines — Introduction**

Introduction to the use of business machines; adding machines (full and ten-key); bookkeeping machines (accounting, billing, posting); calculators (key-driven, printing rotary); comptometry (key-driven calculator); duplicating machines (fluid duplicator, mimeograph); transcribing and dictating machines.

(5 semester periods)

SUBJECT NO.

341.2 **Business Machines — Advanced**

Increased proficiency in the use of business machines; specialization for competency in selected machines; advanced problems and applications of machine usage.

(5 semester periods)

345 **Key-Driven Calculators**

Introduction to key-driven calculators; fundamental techniques of operation; basic problems involving addition, subtraction, multiplication, and division; drills to increase speed and accuracy; application of fundamentals to various types of business problems.
Prerequisite: Business Mathematics.

(5 semester periods)

346 **Comptometry 1-6 — Key-Driven Calculators**

Introduction to the use of comptometer or Burroughs calculator (key-driven calculator); fundamental techniques of operation; basic problems involving addition, subtraction, multiplication, and division; drills to increase speed and accuracy; application of fundamentals to various types of business problems.

(10 semester periods)

352 **Transcribing Machines**

Instruction and practice in the operation of various types of transcribing machines.
Prerequisite: Typewriting 3 or equivalent.

(2½ semester periods)

360-374 FINANCE

361 **Fundamentals of Credit**

Classification and appropriate uses of credit; forms for application for credit and establishment of credit; criteria and sources of information; functions of each section of a typical credit department.

364 **Credit and Collections**

Suitable and effective collection devices; techniques, principles, and general practices; analysis of financial statements; types of collection letters; skiptracing; legal provisions; court actions.

370 **Personal Finance**

Application of principles of finance to problems in everyday living; analysis of the functions of financial institutions; selection of services for borrowing money, buying insurance, buying a home, and making investments; keeping financial records; drawing up a will.

(5 semester periods)

SUBJECT NO.

373 **Investments**

Principles of investment; various types of investments; operation of investment markets and sources of information.

(5 semester periods)

375-419 GENERAL BUSINESS

375 **Business Organization and Practices**

Business for workers and consumers; business organization, ownership, and management; thrift, budgeting, money and banking, credit, insurance, buying goods and services, business and government, personal financial management.

(5 semester periods)

378 **Business English**

Effective use of English in business; general review of composition, grammar, and usage; emphasis on sentence structure, punctuation, word usage, business vocabulary, and spelling. Prerequisite: English 2 or Equivalent.

(5 semester periods)

380 **Business Correspondence**

The use of written communications in business; fundamentals of good letter writing; practical experience in writing business letters, inter-office communications, and reports. Prerequisite: Business English or equivalent.

(5 semester periods)

382 **Report Writing**

Purposes of reports and memoranda, principles of clear statement, logical patterns of organization; outlines; section and paragraph headings; diction; punctuation; paragraph and sentence structure; mechanics of style; introductory section, transitional passages, concluding sections; checklists for evaluating reports and memoranda; psychology of communication.

(5 semester periods)

385 **Business Mathematics**

Review of fundamentals; general problems of budgeting; banking; interest and credit; income tax; accounting; installment buying; wages; related business activities.

(5 semester periods)

388 **Civil Service Preparation**

Review of fundamentals of arithmetic, grammar, spelling, punctuation, and capitalization; vocabulary building; occupational information, including requirements for civil service or business positions.

(5 semester periods)

SUBJECT NO.

420-439 INSURANCE

421 **Fundamentals of Insurance**

Introduction to the history, ethics, economics, and types of insurance; state laws which govern transactions; agency and brokerage contracts; vocational opportunities; insurance coverage planning; preparation for license examination.

(5 semester periods)

424 **Casualty Insurance**

Application of general principles of insurance to all types of casualty, including bodily injury and property damage; workmen's compensation; liability; burglary, robbery, and theft; plate glass suretyship; fidelity and forgery; boiler and machine insurance; accident and health insurance.

(5 semester periods)

427 **Fire and Inland Marine Insurance**

Application of general principles of insurance to policy contracts and underwriting of fire, inland marine, and allied property insurance lines; insurable interest; the policy; extensions; limited coverages; insurance code; basic fire coverages; provisional forms.

(5 semester periods)

430 **Automobile Material Damage Adjustment Insurance**

Nomenclature; Flat Rate Manual; overlap; uniform sequence; analyzing the estimates; damage to automatic transmissions, power steering, and power brakes; frame damage; plastic body repairs; making up estimates.

(5 semester periods)

433 **Life Insurance Fundamentals**

Introduction to fundamentals of life insurance; types of life insurance carriers; life policy contracts; policy condition; selection of risks; policy applications and their processing.

(5 semester periods)

436 **Insurance Claims Adjustment**

Principle of claims handling; first- and third-party claims; policy coverages; damage appraisals; legal doctrines, including law of torts; injury evaluations; illnesses, injuries, and other medical conditions.

(5 semester periods)

439 **Medical Insurance**

Organization and types of medical insurance for groups; professional liability and malpractice; Blue Shield; Blue Cross; workmen's compensation; accident and health coverage; indemnity and public liability.

(5 semester periods)

SUBJECT NO.

440-454 LAW

441.1 Business Law 1

Court procedure; elements of contracts; bailments; personal property; sales contracts; negotiable instruments.

(5 semester periods)

441.2 Business Law 2

Partnership and corporation law; law of agency; real property and leases; estates and trusts; bankruptcy; insurance.
Prerequisites: Business Law 1 or equivalent.

(5 semester periods)

444 Law for Laymen

Various phases of law that affect the layman; contracts, agents, sales, domestic relations, torts, wills, securities, transactions in personal property; real property, including landlord and tenant relationships.

(5 semester periods)

447 Laws of Wills, Trusts, and Estates

Descent and distribution of property in California; administration of estates; gift and estate taxes; trusts; probate; charitable gifts and the proper use of insurance; planning your will and estate.

(5 semester periods)

450 Building Construction Laws

Lien laws as set forth in the Business and Professional Code; drawing and making of building contracts; relation of the California Contractor License Board to contractors and corporations dealing in building construction.

(5 semester periods)

455-509 MANAGEMENT AND SUPERVISION

456 Principles of Management

Survey of various phases of business; organization; operation, finance, personnel, marketing; planning; business and government relations.

(5 semester periods)

459 Small Business Management

Organization and operation of a business; selecting the location; establishing the specialty; long- and short-term budgeting; record-keeping; managerial aids; efficient use of personnel and merchandise.

(5 semester periods)

SUBJECT NO.

462 **Office Management**

Practical office methods; forms control; equipment and supplies; budgetary control; reports; procedure for simplifying work; personnel supervision.

(5 semester periods)

465 **Sales Management**

Organization of sales departments, including recruiting, selecting, training, directing, and compensation; determination of territories, sales policies, quotas, budgets, and expenses; liaison with other management divisions, particularly advertising and credit departments.

(5 semester periods)

468 **Principles of Credit Union Management**

History of the credit union movement; organizational structure; delinquency control and collections; operating procedures; interest theory; duties of credit committee; loan policies; credit union organizations.

(5 semester periods)

469 **Credit Union Management and Accounting**

Credit union operations; account principles; opening accounts; accounting for cash; loan transactions; reconciling the bank account; closing routines; delinquency control.

(5 semester periods)

471 **Public Relations Management**

Ways of identifying the various publics; selecting the most effective techniques and media for reaching the chosen audience; criteria for building a total program and for planning a specific campaign; methods of evaluating success of projects.

(5 semester periods)

475 **Institutional Management**

Duties and responsibilities of the executive housekeeper in hospitals, hotels, motor hotels, department stores, clubs, churches, and other institutional and industrial establishments.

(5 semester periods)

477 **Business Psychology**

Application of principles of psychology to supervision in business and industry; explanations in non-technical language; aspects of human behavior; motivation; habits; instincts; interests; learning processes; emotions; attitudes; personalities.

(5 semester periods)

480 **Supervision Fundamentals**

Employee instruction; employee relations; supervisory and personnel principles; application of principles to specific working situations; handling grievances; improving job methods; introducing change; motivating greater productivity; effects of management policies on employee relations.

(5 semester periods)

482 **Supervision Practices**

Development of effective supervision techniques; preparation of schedules; handling problems; supervision of employees; employee assignments; efficient use of manpower.

(5 semester periods)

483 **Employee Relations**

Understanding of individual and group behavior; personality factors, attitudes; ways of working together for more efficient and effective job performance.

(5 semester periods)

486 **Employee Instructions**

For all levels of supervision; methods and techniques of instruction for better job performance; follow-up; retaining.

(5 semester periods)

489 **Business Conference Leading**

Ways of most effective use of meeting time; building the agenda; choice and notification of personnel, conducting the meeting, distributing discussion, reaching agreement, determining the goals, evaluation, follow-through.

(2½ semester periods)

492 **Work Simplification**

Principles of job methods improvement; motion economy; layout for efficient operation; introducing improvements to employees.

495 **Production Planning and Controls**

Purpose and objectives of planning and controls; manufacturing costs; quality, quantity, and production planning and controls; control over personnel, organization, and materials.

(5 semester periods)

498 **Communication for Supervisors**

Principles of clear communication and effective communications; overcoming verbal barriers; effective speaking and listening; telephone communications; interviewing and counseling; preparing business letters, memos, bulletins, and reports.

(5 semester periods)

510-559 MERCHANDISING

511 **Principles of Marketing**

Distribution of commodities from the producers or manufacturers through the retailer and to the ultimate consumer; classification of commodities and services; functions and channels of the various distributors; planning, buying, and promotion.

(5 semester periods)

514 Marketing Practices

Specifications of successful distribution in individual fields; study of functions in the field; departments within the field; management problems; merchandising plan; individual promotions.

(5 semester periods)

517 Current Merchandising Problems

Current status of the market; regulations affecting the industry; current promotional campaigns; buyer habits and trends.

(5 semester periods)

520 Fundamentals of Advertising

Principles and practices of advertising; purpose of campaigns; copy layout; slogans, trade marks, and media; planning total and individual campaigns.

(5 semester periods)

525 Service Station Sales and Management

Specific problems related to selling at service stations; product knowledge; customer relations; pump island procedures; service procedures; record keeping; housekeeping; cost control; and opportunities in service station management.

(3 semester periods)

526 Selling Home Furnishings

Specific problems related to furniture and home accessory sales; total room planning and individual pieces; room arrangement; fashion trends.
Prerequisite: Applied Art for Retailing or permission of instructor.

(5 semester periods)

529 Textile Analysis and Sale

Sources and characteristics of man-made and natural fibers; manufacturing and finishing processes; selection, use, care, and fashion trends; application to clothing and interior decoration field.

(5 semester periods)

532 Mathematics of Retailing

Fundamentals of arithmetic for sales personnel, including fractions, percentage, discount, interest; computation of sales tax and luxury tax; mark-up and mark-down; use of sales checks, cash registers, time clocks.

(5 semester periods)

SUBJECT NO.

535 **Retail Cashiering**

Primary emphasis on the building of cash register touch-system skill, rapid and accurate scaling, grocery arithmetic, and check-stand procedures; units on customer relations, appearance and personal grooming, checks and money handling, introduction to produce, stocking inventory, display, and record keeping.

(15 semester periods)

538 **Retail Produce Practices**

Buying; receiving and handling produce; building displays; care of produce to reduce spoilage; pricing; trimming and pre-packaging; advertising; department management.

(5 semester periods)

539 **Commercial Floristry Design**

Basic principles of floral design and care of cut flowers; practical shop work in designing of corsages, commercial floral displays, and funeral tributes; basic principles of shop management.

(10 semester periods)

541 **Fundamentals of Salesmanship**

Principles of selling, including the pre-approach, approach demonstration, handling objections, creating desire, the close, salesman's personality, product knowledge, and opportunities in selling.

(5 semester periods)

544 **Salesmanship Practices**

Development of effective selling techniques; critical analysis of parts of sales; review of latest methods in selling, including use of visual aids and role-playing; securing prospects; developing more and larger sales to present customers; customer service and follow-up.
Prerequisite: Fundamentals of Salesmanship or selling experience.

(5 semester periods)

547 **Sales Speech**

Development of efficient sales talks; classroom experience in making oral sales presentations; constructive suggestions in developing more effective sales methods; posture, voice analysis; sales demonstrations.
Prerequisite: Fundamentals of Salesmanship or selling experience.

(5 semester periods)

550 **Sales Psychology**

Review of principles of salesmanship; methods of conquering fears of salesmen; study of motivations and why customers buy; techniques for changing customer attitude; creating a desire to buy; after-sale procedures.

(5 semester periods)

SUBJECT NO.

553 **Sales Institute**

Brief course consisting of several meetings; effective selling techniques; emphasis on current market conditions; guest speakers and a panel discussion.

560-589 REAL ESTATE

561 **Real Estate Principles**

Types of property; policies of urban and suburban development; agricultural land usage; subdividing; major influences affecting city growth trends; functions of private and governmental agencies; terminology.

(5 semester periods)

564.1 **Real Estate Law 1**

Major aspects of the laws of real property, including the organization and function of the State Division of Real Estate; contracts, deeds, titles, liens and encumbrances, escrows, leases, zoning, financing, land descriptions; brokerage; preparation for California state license to sell real estate.

(5 semester periods)

564.2 **Real Estate Law 2**

Application of state laws in the fields of contracts, wills, real and personal property; government home finance agencies; brokerage and agency; zoning.

(5 semester periods)

565 **Real Property Descriptions**

Legal descriptions of property; covers types of descriptions, teminology, controlling principles, applications, practical exercises to develop understanding of and ability to write property descriptions.

(5 semester periods)

567.1 **Real Estate Appraisal 1**

Purposes and functions of residential appraisals; the nature of property and value; value and price change; neighborhood analysis; city growth; depreciation; appraisal techniques, appraisal reports.

(5 semester periods)

567.2 **Real Estate Appraisal 2**

Analysis of income properties; profit and loss statements; present worth tables; capitalization rates; methods of capitalization; leasehold interest; subdivisions effect of financing on appraisal.
Prerequisite: Real Estate Appraisal 1 or permission of instructor.

(5 semester periods)

SUBJECT NO.

570 **Real Estate Sales**

Development of effective selling techniques; review of latest selling methods; securing prospects and listings; customer service and follow-up.

(5 semester periods)

573 **Real Estate Finance**

Capitalization of income, interest, and new yield; types of loans, loaning agencies; insurance coverage; legal provisions of loans; repayment clauses.

(5 semester periods)

576 **Real Estate Practices**

Establishing the real estate office, securing listings and prospects; showing properties and closing sales; improvement of property through building, construction, and landscaping.

(5 semester periods)

579 **Property Management**

Management of income property; methods in renting; maintenance and upkeep, reduction of overhead, purchasing techniques; analyzing investments; leases; liabilities; legal aspects, including building and sanitation, baggage liens, insurance, workmen's compensation. Prerequisite: Real Estate Law and Real Estate Finance or permission of instructor.

(5 semester periods)

582 **Apartment House Law and Management**

Laws, rules, and regulations governing multiple family dwellings, apartment houses, hotels, bungalow courts, includes leasing, notices, eviction, maintenance, decorating, baggage liens, liability of landlords, labor laws, and general management of real property.

(5 semester periods)

585 **Escrow Practices**

Classification of property; types of deeds and transfers of titles; title insurance; usual methods in opening the transaction, developing the file, closing procedures, handling bulk sales, cancellation of escrows.

(5 semester periods)

587 **Condominiums**

Comparison with other forms of multi-family residence ownership; deals with state regulatory agencies; the declaration; the owner's association; compliance with the Subdivision Map Act; commercial and leasehold condominiums; the future condominiums.

(5 semester periods)

588 **Real Estate Investments**

Introduction to analysis of various types of income properties for investment purposes; loca-

SUBJECT NO.

tions, income, operating expenses, depreciation, and the computation of actual net income; includes retail stores, shopping center, motels, hotels, lofts, apartment houses, other units; mortgage investments; land investments.

(5 semester periods)

589 **Building Residential or Income Property**

Organization and development of plans for a building project; designed to provide both laymen and those persons engaged in the construction with understanding of choosing a site; drawing plans and specifications; financing; selecting a contractor; negotiating a contract; supervising construction; landscaping.

(5 semester periods)

590-659 SECRETARIAL SCIENCE

591.1 **Shorthand Theory 1**

Basic principles and theory of Gregg Shorthand Diamond Jubilee; development of basic skills and techniques in shorthand reading and writing.

(5 semester periods)

591.2 **Shorthand Theory 2**

Continuation of principles and theory of Gregg Shorthand Diamond Jubilee; development of basic skills and techniques; dictation of practiced as well as supplementary graded material.
Prerequisite: Shorthand Theory 1 or equivalent.

(5 semester periods)

591.3 **Shorthand Theory 3**

Review and mastery of principles and theory of Gregg Shorthand Diamond Jubilee; short cuts; dictation and transcription; techniques to increase speed and improve skills to meet business standards of proficiency.
Prerequistie: Shorthand Theory 2 or equivalent.

(5 semester periods)

593 **Shorthand Theory Review**

Review of theory and principles of Gregg Shorthand; speed development skills and techniques; transcription.
Prerequisite: Knowledge of Gregg Shorthand.

(5 semester periods)

595.1 **Shorthand Dictation 1**

Speed-building techniques and development of skills; general and business dictation material; dictation from 60 to 80 words per minute; transcription.
Prerequisites: Shorthand Theory 3 and Typewriting or equivalent.

(5 semester periods)

SUBJECT NO.

595.2 Shorthand Dictation 2

Speed-building techniques and development of skills; general business, and special dictation material; dictation from 80 to 100 words per minute; transcription.
Prerequisites: Shorthand Dictation 1 and Typewriting or equivalent.

(5 semester periods)

595.3 Shorthand Dictation 3

Advanced speed-building techniques and skill development; varied dictation material; dictation from 100 to 160 words per minute; transcription.
Prerequisites: Shorthand Dictation 2 and Typewriting or equivalent.

(5 semester periods)

595.4 Shorthand Dictation 4

Intensive, advanced speed-building techniques and skill development; varied kinds of dictating; sustained dictation; dictation speed from 100 to 240 words per minute; transcription.
Prerequisites: Shorthand Dictation 3 and Typewriting or equivalent.

(5 semester periods)

597.1 Legal Dictation 1

Definition, derivation, and explanation of legal terms, words, and phrases; building of legal vocabulary with shorthand outlines; dictation of legal material; preparation for secretarial positions in law offices.
Prerequisites: Typewriting and Shorthand or equivalent.

(5 semester periods)

597.2 Legal Dictation 2

Advanced definition, derivation, and explanation of legal terms, words, and phrases; building of legal vocabulary with shorthand outlines; dictation of legal material; preparation for secretarial positions in law offices.
Prerequisites: Typewriting and Legal Dictation 1 or equivalent.

(5 semester periods)

600.1 Court Reporting 1

Court reporting principles and techniques; development of skill to take rapid and sustained dictation; practice in taking two-voiced, four-voiced, and other specialized dictation; preparation for Official Court and C.S.R. (Certified Shorthand Reporter) examination.
Prerequisites: 100 words per minute speed in hand or machine shorthand and typewriting.

(5 semester periods)

600.2 Court Reporting 2

Advanced court reporting principles and techniques; intensive practice for speed development; application of principles and skills to actual reporting situations; preparation for Official Court and C.S.R. (Certified Shorthand Reporter) examinations.
Prerequisite: Court Reporting 1.

(5 semester periods)

SUBJECT NO.

603 Medical Dictation

Definition, derivation, and explanation of medical terms, words, and phrases; building of medical vocabulary with shorthand outlines; dictation of medical materials; preparation for secretarial positions in the field of medicine and surgery.
Prerequisites: Hand or machine shorthand and typewriting.

(5 semester periods)

609.1 Stenotype Theory 1

Fundamental theory and principles of Stenotype machine shorthand; development of basic skills and techniques in operating machine.

(5 semester periods)

609.2 Stenotype Theory 2

Continuation of principles and theory of Stenotype machine shorthand; further development of basic skills and techniques; dictation and speed building.
Prerequisite: Stenotype 1 or equivalent.

(5 semester periods)

609.3 Stenotype Theory 3

Review and mastery of principles and theory of Stenotype machine shorthand; speed building and skill development; dictation, transcription.
Prerequisites: Stenotype 2 and Typewriting or equivalent.

(5 semester periods)

612.1 Stenotype Dictation 1

Speed-building techniques and skills; general and business dictation material; 60 to 80 words per minute.
Prerequisites: Stenotype 3 and Typewriting or equivalent.

(5 semester periods)

612.2 Stenotype Dictation 2

Speed-building techniques and skills; general, business, and special dictation material; 80 to 100 words per minute; transcription.
Prerequisite: Stenotype Dictation 1 or equivalent.

(5 semester periods)

612.3 Stenotype Dictation 3

Advanced speed-building techniques and skill development; transcription practice; repetitive and new material; dictation speed from 100 to 120 words per minute.
Prerequisite: Stenotype Dictation 2 or equivalent.

(5 semester periods)

615 Stenotype Theory Review

Review of theory and principles of Stenotype machine shorthand; special emphasis upon

SUBJECT NO.

abbreviations and techniques in the operation of the machine.
Prerequisite: Experience in Stenotyping.

(5 semester periods)

616 **Stenoscript**

Basic principles and theory of Stenoscript ABC shorthand; development of basic skills and techniques in use of an alphabet shorthand.

(5 semester periods)

618.1 **Typewriting 1**

Keyboard; machine parts; typewriting techniques; fundamental skills; timed writing; speed 20 words per minute minimum.

(5 semester periods)

618.2 **Typewriting 2**

Review of basic techniques and skills; development of speed and accuracy; personal use typewriting; timed writing; speed of 30 words per minute, minimum.
Prerequisite: Typewriting 1 or equivalent.

(5 semester periods)

618.3 **Typewriting 3**

Review of basic techniques and skills; accuracy and speed development; business letters and forms; timed writing; speed of 40 words per minute, minimum.
Prerequisite: Typewriting 2 or equivalent.

(5 semester periods)

618.4 **Typewriting 4**

Review and practice of techniques and skills; emphasis on speed and accuracy in production work; speed building; timed writing; speed of 50 words per minute, minimum.
Prerequisite: Typewriting 3 or equivalent.

(5 semester periods)

618.5 **Typewriting 5**

Application of typewriting techniques and skills to meet business standards; legal, statistical, office forms; duplicating processes and transcribing.
Prerequisite: Typewriting 4 or equivalent.

(5 semester periods)

621 **Filing**

Fundamentals of alphabetic, Variadex, Triple Automatic, Soundex, and numeric systems of filing; related systems.

(5 semester periods)

SUBJECT NO.

624 **Office Procedures**

Office organization and routines; office procedures; telephone usage; handling the mail; filing; duplicating processes; occupational information; techniques for securing employment.

(5 semester periods)

627 **Legal Procedures for Secretaries**

California procedural law and forms; preparation of court forms, pleadings, and documents; definition and explanation of legal proceedings and procedures.

(5 semester periods)

630 **Office Practices and Procedures — General Insurance**

General insurance office practices and procedures; insurance terminology; insurance records; public relations; correspondence and reports; clerical problems in the insurance profession.

(5 semester periods)

633 **Medical Laboratory Procedures**

Use and care of microscope, centrifuge, and other scientific equipment; methods of sterilization of instruments; theory and demonstration of tests as performed in doctors' offices.

(5 semester periods)

636 **Medical Office Procedures**

Medical office practices and procedures; doctor's abbreviations, symbols, diagnostic procedures; medical records; public relations; correspondence and reports; assisting the doctor; clerical problems in the medical profession.

(5 semester periods)

639 **Medical Terminology**

Facts of general structure and function of different body organs and systems; medical terms related to these organs and to the more common diseases and operations; how to analyze medical terms; doctor's abbreviations and symbols; spelling, pronunciation and understanding of medical and surgical terms.

(10 semester periods)

642 **Secretarial Procedures**

Secretarial skills; secretarial accounting; general office procedures; business law; human relations; economics; and office management; review as preparation for CPS examination.

(5 semester periods)

645 **PBX Switchboard Operation**

Fundamentals of PBX switchboard operation; cord and cordless; practice in operation of a small switchboard; telephone courtesy; making connections for incoming and outgoing calls; taking messages.

(5 semester periods)

SUBJECT NO. *660-699 TRANSPORTATION AND TRAFFIC MANAGEMENT*

661 Principles of Traffic Management

Survey of all phases of traffic management; organization and function of industrial traffic departments; shipping, receiving, warehousing, claims, choice of carriers, accessorial services; terminology; govermental regulations; procedures in making freight rates and publication of tariffs.

(5 semester periods)

662 Terminal Operations

Terminal operations; systems and procedures; cost and production standards; material handling; claims and over short and damaged procedures; service; supervising qualifications; employee-supervisor relations.

(5 semester periods)

664.1 Motor Rates 1

Use of freight classifications and tariffs of the California Public Utilities Commission and California Motor Carriers through rate problems involving application of rules and regulations.
Prerequisite: Traffic Management or equivalent.

(5 semester periods)

664.2 Motor Rates 2

Diversified rate problems involving motor carriers, Rocky Mountain Motor Tariffs Bureau freight rate tariffs, federal regulations, and current traffic matters.
Prerequisites: Motor Rates 1, Rail Rates 1 and 2 or equivalent.

(5 semester periods)

667.1 Rail Rates 1

Use of freight classification and California rail freight tariffs through practical rate problems involving all phases of rating; state and federal regulations.
Prerequisites: Traffic Management and Motor Rates 1 or equivalent.

(5 semester periods)

667.2 Rail Rates 2

Diversified rate problems involving rail transcontinental freight rate tariffs; construction of combination rates, federal regulations, and current traffic matters.
Prerequisite: Rail Rates 1 or equivalent.

(5 semester periods)

667.3 Rail Rates 3

Diversified rate problems involving shipping in Mountain-Pacific territory; rail accesorial services; routing, federal regulations, and current traffic matters; freight forwarder organization, operation, regulation, and rates.
Prerequisites: Rail Rates 1 and 2 or equivalent.

(5 semester periods)

SUBJECT NO.

668 **Air Cargo Rates**

Instruction in all phases of air transportation; joint passenger and freight carriers; domestic rates and regulations; international rates and regulations; terminal procedures; expediting techniques; Civil Aeronautics Act of 1938.

(5 semester periods)

669 **Household Carriers**

Instruction in the use of household carriers; the techniques employed in estimating charges; the proper rates to assess; the relationship between industry and carrier; proper sales approach; the problems confronting both industry and the carrier; the types of articles that can be moved by the carrier.

(5 semester periods)

670 **Rate Making and Adjustment Procedure**

Conference and bureau methods of rate making; Reed-Bulwinkle Bill; shipper's rate proposals; carrier rate proposals; carrier procedures for dispositions of dockets; area of reasonableness; features of alleged prejudice and discrimination; rate relationships; effects of competition; rules of rate making.

(5 semester periods)

673 **Interstate Commerce Act**

Interstate Commerce Art and Amendatory Acts; fundamentals of rate making to assist in preparation for practice before the I.C.C.
Prerequisite: Permission of instructor.

(5 semester periods)

676 **I.C.C. Practice and I.C. Law**

Rules of practice before the Interstate Commerce Commission; rules of evidence; canons of ethics; review of principles and interpretation of interstate commerce laws from federal court cases and I.C.C. decisions; preparation for practice before the I.C.C.
Prerequisite: Permission of instructor.

(5 semester periods)

679 **Foreign Freight Forwarding**

Steamship bookings; air freight; documentation, consular invoices; export declarations; export licenses.

(5 semester periods)

682 **Freight Forwarder Rates**

History, regulation, and organization of Freight Forwarded Services; construction, application, and use of freight forwarder tariffs through rate problems.

(5 semester periods)

SUBJECT NO.

683 **Freight Claims**

Liability of freight claims; damage claims; carrier's claims; laws affecting freight loss and damage by railroads, motor trucks, air and water carriers and railway and air express.

(5 semester periods)

685 **Foreign Trade**

Interchange of goods between countries; duties; custom regulations; monetary values; consular invoices; letters of credit; insurance for foreign shipments; steamship and airline bookings; ocean bills of lading; airbills.

(5 semester periods)

688 **Regulation of Transportation**

Federal laws applicable to domestic land and water carriers; designed for both shippers and carriers.

(5 semester periods)

691 **Interstate Commerce Law and Practice**

Leading court decisions, practices, and procedures before government agencies, and the effect and purpose of federal regulation of transportation; assistance in preparation for the Interstate Commerce Commission Practitioner's examination; regulatory laws for both carrier and shipper.

(5 semester periods)

694 **Transportation Economics**

Organization, services, operation, practices, and regulation of transportation enterprises; preparation for the examinations of the American Society of Traffic and Transportation.

(5 semester periods)

697 **Transportation Sales**

Development of effective selling techniques in the transportation business; the selling profession; qualifications of a freight salesman; sales methods for use in calling on potential shippers; organization, demonstration, and follow-up in selling.

(5 semester periods)

698 **Transportation Purchasing**

Basic instruction in all phases of traffic useful to purchasing personnel; FOB; choice of carriers; pull cars; stop-off cars; split delivery; transit time.

(5 semester periods)

700-774 CIVIC EDUCATION

SUBJECT NO.

700-704 CIVIL AERONAUTICS AND BOAT SAFETY

701 **Civil Aeronautics**

Aeronautical applications of aero-dynamics; meteorology and navigation; United States laws concerning operation of privately owned aircraft; preparation for C.A.A. license examination; duties and responsibilities of Civil Air Patrol.

702 **Seamanship and Boat Safety**

Types of marine engines; operation, maintenance, and repair of small sea-going craft in coastal waters; nautical terminology; tides and currents; aids to navigation; piloting and use of charts; safety at sea; laws, rules, and licenses governing small craft.

(5 semester periods)

705-709 CIVIL DEFENSE

706 **Radiation, Health and Safety**

Radiological hazards and phenomenology of the atom and hydrogen bombs; use of geiger counter, ion chamber, walkie-talkie, and 2-way radio.

(5 semester periods)

710-719 DRIVER EDUCATION

711 **Driver Education**

Mechanical features of the automobile; approved driving practices, responsibilities of the car owner; California Vehicle Code; basic city traffic ordinances; preparation for driver's license examination.

(5 semester periods)

713 **Personal Traffic Safety**

The automobile, its care and operation; the driver, his duties and responsibilities; causes and effects of automobile accidents; psychology of traffic behavior; laws of motion applied to review of the California Vehicle Code.

714 **Personal Traffic Safety — Juvenile**

For juveniles assigned from the juvenile traffic courts; review of accepted driving attitudes and habits; stimulation of interest in improvement of traffic performance; development of understanding and respect for the role of the traffic officer.

715 **Commercial Driving**

The traffic problem; laws pertaining to driving; responsibility to public, employer, and self; care and maintenance of equipment; general safety rules.

(5 semester periods)

SUBJECT NO.

717 **Truck Driving and Safety**

Fundamentals of truck operation; driving habits, skills, and attitudes; behind-the-wheel instruction; safety.

718 **School Bus Driver Training and Safety Education**

Driving skills, laws and rules, mechanical aspects, pupil discipline, public relations, radio operation, and first aid, as related to school bus driving.

(3 semester periods)

720-729 FIRE SCIENCE

721 **Fire Chemistry**

Fundamentals of chemistry pertaining to fire fighting; fire hazards; fire prevention, extinguishing methods; safety practices.

(5 semester periods)

723 **Fire Company Administration**

Practical application of records, reports, and company training; the history and authority of the fire company; the municipal fire problem; distribution and routine maintenance of fire department buildings and equipment; fire alarm systems and communications precedures; distribution of personnel; the principles and methods used in supervising training, and instructing fire department personnel; water supply for the fire service, including the principles of hydrant distribution; the development of safe driving and working practices and the role of the supervisor in administering a safety program; modern fire-fighting practices and techniques; pre-fire planning and post-fire training; work organization; dicipline and morale.

(10 semester periods)

725 **Fire Science**

Los Angeles City fire prevention code and regulations pertaining to fire prevention, standards of operation involving public safety; fundamentals of fire suppression.

(10 semester periods)

726 **Fire Science — Hydraulics**

Review of basic mathematics; hydraulic laws; formulas as applied to the fire service; application of formulas and mental calculations to hydraulic problems; water supply problems; N.B.F.U. requirements for pumpers.

(5 semester periods)

727 **Fire-Fighting Techniques**

Modern fire-fighting practices and procedures; application of scientific principles to fire suppression; special emphasis on pre-fire planning; development and use of command tactics; analysis of fire by occupancy type.

(10 semester periods)

SUBJECT NO.

730-734 LEADERSHIP TRAINING

731 **Leadership Training**

Characteristics of leadership; leadership techniques as applied in group activities; study of human behavior; mass psychology; practice in public speaking; parliamentary procedure.

(5 semester periods)

735-759 POLICE SCIENCE

735 **Introduction to Law Enforcement**

Introduction to police science. A basic course dealing with criminal processes and procedures; police history; organization of local, state and federal police agencies; community composition; structure of modern police departments; framework for handling problems of juvenile delinquency; traffic control; functions of detectives and patrols; review of occupational opportunities and career requirements.

(5 semester periods)

736 **General Police Information**

Intensive study of all Los Angeles Police Department manuals; training bulletins, orders, procedures, and functions; operations of federal, state, county, and city governments in reference to law enforcement.

(5 semester periods)

738 **Police Administration and Supervision**

Structure of a modern police department; application of administrative methods in the fields of supervision, planning, organization, direction, coordination, reporting, budgeting, personnel, training, juvenile, patrol, and records; the penal code and general laws of California, including the latest decisions of the California courts applicable to police work.

(10 semester periods)

740 **Police Report Writing**

Techniques of presenting information; Manual of Reports analyzed; essential elements of specific reports; distribution of reports.

(5 semester periods)

742 **Police Law and Evidence**

Penal code, general laws, California Vehicle Code; latest court decisions applicable to police work; rules of evidence and admission of evidence as used in the California courts.

(5 semester periods)

744 **Police Science — Vehicle Code**

Development and organization of the California Vehicle Code; elements of specific sections; interpretation of statutes; rights and duties of peace officers under the code; related laws from other codes.

(5 semester periods)

SUBJECT NO.

746 Police Science — Enforcement Practices

Instruction and training for line officers at the functional level; small arms; short wave radio; dispatching procedures; first aid and safety; criminal law; court procedures and reporting procedure.

(5 semester periods)

748 Police Science — Investigation

Instruction and training for investigators at the functional level; review of police law, courtroom practices, codes, records and reporting procedure.

(5 semester periods)

750 Police Science — Home and Plant Protection

Care and use of firearms; legal aspects; training of watchmen and security guards.

(5 semester periods)

752 Criminal Process and Procedure

Criminal law; procedural statutes; rules applicable to court proceedings.

(5 semester periods)

753 Civil Process and Procedural Law

The courts of California, with special reference to trial court procedures and processes; processes and procedures observed by clerks in civil departments of courts, including papers to be filed, processes to be issued, and related subjects.

(5 semester periods)

754 Police Science — Penal Code

Organization and content of the penal code and general laws of the State of California; capacity, intent, attempts, and laws of arrest; leading decisions of California courts on penal statutes, plus the precedent set and implication of the cases; essential elements of many crimes, including kidnapping, forgery, perjury, bribery, and abortion violation; licensing provisions; exemptions of the Dangerous Weapon Control Law.

(5 semester periods)

756 Legal Procedures for Juvenile Traffic

Principles of the due process of law; use of codes and other legal references, rules of evidence; basic principles of criminal law; effect of juvenile court law hearings; training traffic in the methods, techniques, and legal procedures used in conducting a court trial.

(2½ semester periods)

760-774 CIVIC EDUCATION — GENERAL

761 City Government

Structure and functions of city government in relationship to county and state government; city charter; municipal code; political evaluations of city government in Los Angeles.

(2½ semester periods)

SUBJECT NO.

764 **County Government**

Structure and functions of county government in relation to city and state government; legal basis; levels of government; policy determination; general functions.

(2½ semester periods)

767 **Basic Civil Service Information**

Designed to provide students with a better understanding of Civil Service Systems and their operation; the structure, rules and procedures of the Los Angeles County Civil Service Commission, with emphasis on the practical application of those governing appointments, including promotions, training, performance evaluation, and disciplinary actions.

(2½ semester periods)

768 **Municipal Civil Service Rules and Procedures**

Review of the rules and procedures of the Los Angeles City Civil Service Commission; emphasis on the practical application and interpretation of the rules and procedures governing appointments, promotions, discharges, layoffs, leaves, service ratings, transfers, and appeals; designed for personnel currently employed by the City of Los Angeles.

(2½ semester periods)

770-774 GERONTOLOGY

770 **Gerontology**

Short courses and subjects of interest to older people, covering mental, physical, and nutritional health problems; activity programs.

(5 semester periods)

771 **Planning for Retirement**

Fundamentals of establishing a constructive life pattern on retirement; problems of economics, health, housing, leisure time.

(2½ semester periods)

772 **Leadership Training for Older Adults**

Leadership techniques for older adults; attitudes and problems affecting this age group; communication skills.

(5 semester periods)

774.1 **Understanding the Aged — General Orientation**

Social and personal factors affecting the aging related to problems of the worker with this age group.

(5 semester periods)

774.2 **Understanding the Aged — Leisure Time Needs**

Analysis of needs; methods and techniques of broadening programs. Use of community resources.

(5 semester periods)

775-799 ELEMENTARY AND CITIZENSHIP EDUCATION

SUBJECT NO.

775-784 ELEMENTARY SUBJECTS

776.1	**Elementary Subjects 1** Introduction to basic skills; reading printed and written words; spelling; practice in correct oral speech habits; cursive writing—capital and small letters and numerical figures; concept of numbers; addition and subtraction.
776.2	**Elementary Subjects 2** Expansion of basic reading vocabulary; basic spelling list; singular and plural in oral and written language; practice in cursive writing; multiplication; history and geography of Los Angeles.
776.3	**Elementary Subjects 3** Mastery of basic primary vocabulary; development of reading speed; capitalization and punctuation; legibility in cursive writing; division; study of city and county government.
776.4	**Elementary Subjects 4** Reading for comprehension, speed, and interpretation; mastery of basic fourth-grade spelling list; letter forms, sentence recognition, irregular verbs; speed in cursive writing; addition, subtraction, multiplication, and division of common fractions; history and geography of California.
776.5	**Elementary Subjects 5** Review of basic reading skills; practice in reference skills; mastery of basic fifth-grade spelling list; simple sentence recognition; introduction to parts of speech; addition, subtraction, multiplication, and division of decimals; measurements; problem solving; study of state government; maps and simple charts.
776.6	**Elementary Subjects 6** Intensive review and practice of basic reading skills; introduction to use of library; review of basic spelling lists; parts of speech and use of irregular verbs; organization of sentences and paragraphs; mixed numbers — fractions and decimals; percentage; basic geometric forms; history and geography of the United States; maps and charts.
776.7	**Elementary Subjects 7** Development of reading and writing skills; sentence structure, punctuation, and spelling; practice and review of fractions — common decimal; percentage; measurement; problem solving related to practical, everyday experiences; geography and history of the world as related to living in the United States; maps and charts.
776.8	**Elementary Subjects 8** Reading, spelling, grammar, and punctuation; use of library; review of basic spelling lists; letter writing; correct usage and speech habits; mathematics review; federal government; review of history and geography of the United States; review of state and local government.

SUBJECT NO.

777 Arithmetic Fundamentals — Elementary

Application of arithmetic to everyday life; counting and writing numbers; addition, subtraction, multiplication, division of whole numbers, fractions, and decimals; per cent.

778 Spelling

Correction of basic spelling errors; word roots, prefixes, suffixes; spelling rules; importance of correct pronunciation, basic spelling lists — "100 Demons"; use of the dictionary.

779 Remedial Reading

Practice in improving reading skills and comprehension.

782 English — 8th Grade Level

Review of principles of elementary English; extensive practice in oral and written expression.
Prerequisite: Elementary Subjects 6 or 7.

783 English Review and Reading Improvement — Elementary

Simple sentence construction, parts of speech, paragraphing, capitalizing, punctuation, abbreviations, alphabetizing, outlining, using dictionary, letter-writing, comprehension skills, vocabulary building, location skills, recreational reading.

784 Vocational Rehabilitation — Elementary

Reading, spelling, grammar, and punctuation; letter writing; correct usage and speech habits; arithmetic; acceptable working habits.

785-789 CITIZENSHIP

786 Citizenship

Preparation for naturalization; important events in United States history; the Constitution and its historic background; study of the organization, powers, and duties of federal, state, and local governments; understanding and appreciation of our American culture, institutions, and ideals; emphasis on the privileges, duties, and responsibilities of citizenship.
Prerequisite: English As a Second Language 5 or equivalent.

790-799 ENGLISH AS A SECOND LANGUAGE

791.1 English As a Second Language 1

Speaking, reading, and writing English for the immediate needs of non-English speaking adults; developing the ability to express themselves using present tense, present progressive, simple past, and simple future; learning the elementary structure of affirmative, interrogative, and negative statements. Easy, graded lessons in English based on daily experiences.

SUBJECT NO.

791.2 English As a Second Language 2

Material based on language needs which arise in everyday personal and group experiences; further development of oral skills; new work, consisting of compound statements, correct work order, past progressive verb usage, the comparison of adjectives, and writing informal notes.
Prerequisite: English As a Second Language 1 or equivalent.

791.3 English As a Second Language 3

Oral and written lessons leading to an understanding of the local community; oral drills on usage; new work based on the use of the perfect tenses; passive voice, the comparative forms of adverbs; complex sentences; writing social and business letters; filling out business forms.
Prerequisite: English As a Second Language 2 or equivalent.

791.4 English As a Second Language 4

Constant drill and use of oral skills; new work, including verb agreement, direct and indirect discourse, simple conditional sentences, introducing the use of the gerund and infinitive, compound sentences and questions, and preparation of short compositions.
Prerequisite: English As a Second Language 3 or equivalent.

791.5 English As a Second Language 5

Review of fundamentals with emphasis on oral skills; new work based in the use of complex verb tenses, sequence of tenses, noun and adjective and adverbial clauses, infinitives, gerunds, and participles; review of business forms.
Prerequisite: English As a Second Language 4 or equivalent.

791.6 English As a Second Language 6

Development of civic responsibility based on an understanding of the history, growth, and problems of the city, the state, and the nation; use of oral language skills through talks and reports; written work developed to include paragraphing, outline forms and summarizing; drills to increase speed and comprehension in speaking, reading, and writing English.
Prerequisite: English As a Second Language 5 or equivalent.

791.7 English As a Second Language 7

Over-all review of grammar; continued emphasis on spoken English; training in note-taking, in developing and presenting oral reports, and in composing business and social letters; understanding of American customs and social etiquette; appreciation of United States history and government.
Prerequisite: English As a Second Language 6 or equivalent.

794 Accent Removal and Speech Improvement

Foreign accent removal; speech development through English rhythms, correct pronunciation, and fluency.
Prerequisites: English As a Second Language 1, 2, 3, and 4 or equivalent.

800-834 FINE ARTS AND CRAFTS EDUCATION

SUBJECT NO.

800-804 CRAFTS

801.1 Jewelry 1

Objects made for decorative wear; construction of jewelry in materials suitable for design and function; shape, etch, oxidize, solder, and polish metals; gem cutting; enameling and mounting; emphasis on good design, craftsmanship, materials; field trips.

(10 semester periods)

801.2 Jewelry 2

Creative use of basic jewelry skills; technical and artistic application of silversmithing and gem developing; emphasis on design, composition, combination of materials, and fine craftsmanship.

(10 semester periods)

804.1 Lapidary 1

Grind, polish, facet, and mount precious, semi-precious, and ornamental stones; recognize, procure, and develop gem or equivalent.

(10 semester periods)

804.2 Lapidary 2

Perfection of basic lapidary skills; classify, mount, and exhibit gems and stones; experiment with and display creative gem ornamentation showing utility and craftsmanship.

(10 semester periods)

805-834 FINE ARTS

806 Art Appreciation

Analysis of the art of significant periods in proper social and historical setting; consideration of art's contributions to civilization, with emphasis on aesthetic and human values.

(5 semester periods)

809 Basic Art and Still Life

Fundamentals of drawing and painting; depiction of form and space by means of line, dark and light, color, perspective, personal interpretation; concepts and principles of composition; study of techniques; development of personal creative abilities.

(10 semester periods)

812 Landscape and Marine Painting

Drawing and painting, using nature, buildings, and boats as subjects; study of types of composition and perspective; use of color; development of personal creativeness and participation in community projects and exhibitions.

(10 semester periods)

SUBJECT NO.

815 **Portraiture**

Drawing and painting of figure and head from casts, models, memory, and imagination; study of figure in action; modeling of form and disposition in space; emphasis on form through controlled light; detailed analysis of features of head; study of background and accessories; problems of composition and techniques of portrait painting.

(10 semester periods)

818 **Contemporary Painting**

Elements of design; line, space, volume; principles of color and their application; training in observation and its translation into picture structure, stressing the individual's creative approach.

(10 semester periods)

821 **Oil Painting**

Techniques of oil painting on canvas and masonite or other supports; under painting and glazing; impasto painting; palette knife painting; color theory and phenomena; analysis of compositional approaches; development of the student's personal creativeness; still life; landscapes; portraits.

(10 semester periods)

824 **Water Color Painting**

Techniques of water color painting; selection and care of equipment; color study and composition exercises; creative painting; still life and landscape in water color; framing and exhibition problems.

(10 semester periods)

825 **Introduction to Japanese Art**

Fundamentals of Oriental painting and brush techniques; depiction of form and space by means of line, dark and light; personal interpretations, concepts, and principles of composition; development of personal creative abilities.

(5 semester periods)

827 **Ceramics 1**

Design, construction, and decoration of clay forms; building, throwing, casting, modeling, and decorating clays; mixing and applying glazes; loading and drawing the kiln; emphasis on function and quality of design.

(10 semester periods)

830 **Ceramics 2**

Advanced design, construction, and decoration of clay forms; new methods of building, throwing, casting, modeling in a variety of clays; mixing special glazes; emphasis on creativeness in design.

(10 semester periods)

SUBJECT NO.

833 **Ceramics 3**

Clay as a creative media; advanced techniques in contemporary ceramic problems; emphasis on individual creative design, color, and texture and application of glazes.

(10 semester periods)

834 **Sculpture**

Modeling in clay and forming synthetics in lead; carving with various materials; constructing with metal wire and cement; developing mastery in use of tools appropriate for each material; working with three-dimensional design and composition; finishing and mounting of pieces.

(10 semester periods)

835-884 HEALTH EDUCATION

SUBJECT NO.

835-839 FIRST AID

836 **Standard First Aid — Red Cross**

Accident prevention; emergency treatment; resuscitation; transportation of injured; home emergencies. Red Cross Certificate issued upon satisfactory completion.

837 **Advanced First Aid — Red Cross**

Review of Standard Course; legal aspects; roller bandages; traction splints; practical first aid problems as related to Civil Defense. Advanced Red Cross Certificate issued upon satisfactory completion.
Prerequisite: Current Standard Red Cross Certificate.

839 **Instructor Course First Aid — Red Cross**

Review of first aid; emphasis upon teaching methods; Red Cross Certificate for instructors issued upon satisfactory completion.
Prerequisite: Current Standard Red Cross Certificate.

840-849 HEALTH AND HYGIENE

841 **Health and Hygiene**

Problems in personal and community hygiene; human anatomy and physiology; cause and control of diseases; nutrition; sanitation; mental health.

(5 semester periods)

843 **Basic Public Health Entomology**

Literature, nomenclature, and entomotaxy of insects, including the historical importance of archeological and geological contributions.

(5 semester periods)

845 **Food Handling and Sanitation**

Bacteria and disease; food service and personal hygiene; preparation, handling, and storage of foods; dishwashing detergents and sanitizers; rodent and insect control; codes, regulations, and inspections.

847 **Food Management and Sanitation**

Kitchen sanitation; food service and personal hygiene; preparation, handling, and storage of foods; menu planning for nutritious meals in quantity; dishwashing detergents and sanitizers; rodent and insect control; codes, regulations, and inspections.

850-854 PHYSICAL EDUCATION

851 **Physical Education — Men**

Physical conditioning and body building; correction of minor postural defects; apparatus and equipment activities; related health problems.

SUBJECT NO.

853.1 **Physical Education 1 — Women**

Scientific exercises and rhythmic activities; development of coordination, flexibility, rhythm, poise; correction of minor postural defects; apparatus activities; related health problems.

853.2 **Physical Education 2 — Women**

Review and continuation of Physical Education 1; increase in tempo, intensity, duration, and difficulty of activities; health counseling.

855-864 NURSING

856.1 **Practical Nursing Theory and Practice 1**

Theory and practice in care of sick; physiology; medical terminology; nursing procedures; bedmaking, bathing patients; pulse, enemas; charting, bandaging, and hospital procedures.

(10 semester periods)

856.2 **Practical Nursing Theory and Practice 2**

Anatomy, nutrition, pharmacology; surgical, obstetrics, pediatrics, bacteriology, nursing arts; blood pressure, sterilizing techniques, catheterization, irrigations, hospital procedures.

(10 semester periods)

858 **Geriatric Nursing Aide**

Theory and practice in care of the sick; geriatrics; sanitarium and nursing home operation; physiology; medical terminology; nursing procedures; bedmaking, bathing the aged, enemas; assisting the registered nurse.

(10 semester periods)

860 **Nursing Aide**

Theory and practice in basic nursing procedures; hygiene and sanitation; safety and comfort of the patient; nutrition and diet therapy; anatomy and physiology.

(10 semester periods)

862 **Dental Assisting**

Routine dental office procedures, including care of dental office and equipment; dental office management; chair assisting; dental anatomy and pathology; anesthesia and oral surgery; bacteriology and sterilization; dental roentgenology; oral hygiene and perodontia; diet and nutrition; orthodontics; pharmacology.

(10 semester periods)

865-884 SWIMMING

866.1 **Swimming 1**

Fundamentals of water safety and swimming; relaxation, breath control, buoyancy, stroking, kicking; elementary diving.

SUBJECT NO.

866.2 Swimming 2

Review of Swimming 1; basic strokes; body control; safety techniques; diving.
Prerequisite: Swimming 1 or equivalent.

866.3 Swimming 3

Review of Swimming 2; advanced swimming skills, endurance, speed; advanced safety and life saving techniques.
Prerequisite: Swimming 2 or equivalent.

868 Life Saving — Senior Red Cross

Life saving techniques; holds, carrying, resuscitation; water safety techniques; treading, disrobing in water, stroke variations; emergency equipment; transportation. Red Cross Certificate issued upon satisfactory completion.

870 Life Saving — Instructor Red Cross

Review of life saving and water safety techniques; emphasis upon teaching methods. Instructor's Certificate issued upon satisfactory completion.
Prerequisite: Current Senior Red Cross Life Saving Certificate.

885-984 HOMEMAKING EDUCATION

SUBJECT NO.

885-904 CLOTHING CONSTRUCTION

886.1 **Clothing Construction 1**

Selection and use of commercial patterns, fundamental process of garment construction; fitting; elementary design and pattern development; wardrobe planning; gromming; elementary tailoring.

(10 semester periods)

886.2 **Clothing Construction 2**

Design; construction and use of personal patterns; pattern adjustment and development; fitting; wardrobe planning; grooming; fundamental process of construction and tailoring. Prerequisite: Clothing Construction 1 or equivalent.

(10 semester periods)

886.3 **Clothing Construction 3**

Advanced design and pattern development; using personal patterns; fitting; advanced process of construction; advanced tailoring; grooming; wardrobe coordination.

(10 semester periods)

889 **Clothing Construction — Tailoring**

Techniques of tailoring; fitting and pressing; design related to tailored garments; use of personal pattern; pattern development; grooming; wardrobe planning. Prerequisite: Clothing Construction or equivalent.

(10 semester periods)

892 **Clothing Construction — Men's Tailoring**

Styling, detailing, construction, and fitting of men's garments; operation of factory-type power sewing machines.

(5 semester periods)

895 **Clothing Construction — Textile Arts**

Fundamental techniques of construction and care of hand-knitted garments; original design development and charting; study of yarns, ribbons, and other materials used in the making of such garments.

(10 semester periods)

898 **Clothing — Planning, Selection, and Care**

Basic guides for clothing selection; analysis of figure types and fitting problems; budgeting; evaluation of quality in textiles and workmanship; consideration of color and design for the individual; care of garments; personal grooming.

(5 semester periods)

SUBJECT NO.

905-915 CONSUMER EDUCATION

909 **Consumer Education**

Family expenditures related to foods, clothing, shelter, and home furnishings; time and money management.

(10 semester periods)

912 **Home Management (Also Housing Authority Contract & EOA-CAP)**

Fundamentals of home management related to homemaking skills and techniques, time and money management, foods and nutrition, meal planning and preparation, clothing construction and remodeling, home safety and sanitation, shelter and home furnishings, hygiene and grooming and social skills.

(10 semester periods)

915 **Home Management and Family Care (Home Makers' Agency)**

Fundamentals of home management and family care; meal planning and preparation; efficient use of time, energy, and money; basic home repairs; home safety; home nursing; infant and child care.

916-925 FOODS

918 **Foods 1 — Elementary Preparation and Nutrition**

Basic nutrition; economy of time, energy, and money in food preparation and serving.

(10 semester periods)

922 **Foods 3 — Foreign and Domestic Cookery**

Selecting, purchasing, preparing, and serving regional and specialized foods, both domestic and foreign; planning menus for special groups and occasions.

(10 semester periods)

924 **Foods 4 — Catering Methods for Home Use**

Instruction in planning, preparing, and serving; techniques and skills, using professional methods for gracious presentation and economy of time and cost; basic requirements of shopping, menu planning, recipes, nutrition, food composition, preparation, conservation; serving, lighting, and decors.

(10 semester periods)

926-929 HOMEMAKING, GENERAL

926 **Remedial Education — Homemaking**

Fundamentals of food preparation and service; health; safety; personal hygiene; hand sewing and related activities.

(10 semester periods)

SUBJECT NO.

928 Home Nursing

Theory and practice of nursing procedure; care of the injured, sick, and aged, and of invalids; bed baths; nursing techniques used in the home.

(10 semester periods)

930-949 HOME FURNISHINGS

931 Creative Design — Home Accessories

Fundamentals of art elements in two- and three-dimensional design as they apply to the development and construction of functional and decorative articles for use in the home; instruction in the use of tools and materials related to mosaic, enameling, leather, textile, paper, wood, stone, and other current media.

(10 semester periods)

934 Fabric Accessories for the Home

Design and construction of fabric accessories for the home, including draperies, spreads, slip covers; design in relation to the function and placement of the accessories in the home.

(10 semester periods)

937 Interior Decoration

Planning for furnishing and redecorating the home, with emphasis on harmony of color, line, and design; selection of wall and floor coverings; and selection, use, and placement of furniture and accessories.

(10 semester periods)

940 Floor Coverings — Hand Made

Design and construction of various size floor coverings; hooked and braided rugs; materials, dyeing and finishing; study of provincial and conventional design.

(10 semester periods)

950-954 MILLINERY

951.1 Millinery 1

Techniques and procedures for renovating, remodeling, blocking, construction, trimming, and copying; use of felts, straws, and other materials suitable for millinery; design development; pattern and block construction; study of millinery in relation to grooming and to wardrobe.

(10 semester periods)

951.2 Millinery 2 — Advanced

Advanced techniques and procedures for renovating, remodeling, blocking, constructing, trimming and copying; use of new materials in relation to contemporary grooming and to wardrobe.

(10 semester periods)

SUBJECT NO.

951.3 **Millinery 3 — Design**

Review of basic techniques and processes; original design and pattern construction; advanced study of millinery in relation to wardrobe.
Prerequisite: Millinery 1 and 2 or equivalent.

(10 semester periods)

955-984 PARENT AND FAMILY LIFE EDUCATION

956 **Parent Education — Preparation for Parenthood**

Cycle of human creation; normal function of pregnancy; exercises for purpose of physical fitness; posture and carriage; standards of obstetrical care; care of the baby.

(10 semester periods)

958.1 **Parent Education — Child Observation 1**

Pre-school child; growth and development; observation, study, and discussion of activities and problems of 2-3 year olds.

(10 semester periods)

958.2 **Parent Education — Child Observation 2**

Pre-school child; growth and development; observation, study and discussion of activities and problems of 3-4 year olds.

(10 semester periods)

958.3 **Parent Education — Child Observation 3**

Pre-school child; growth and development; observation, study and discussion of activities and problems of 4-5 year olds.

(10 semester periods)

960 **Parent Education — Pre-School**

Physical, mental, social, and emotional growth and development; parent-child relationships. Discussion group method.

962 **Parent Education — The Elementary School Age Child**

Characteristics of the school age child, parent-child relationships, home-school relations. Discussion group method.

(5 semester periods)

964.1 **Parent Education — Adolescent Age Group, Junior High School**

Characteristics of adolescents of junior high school age; parent-adolescent relationships; problems of parenthood at this age level; community problems affecting youth. Discussion group method.

(5 semester periods)

SUBJECT NO.

964.2 Parent Education — Adolescent Age Group, Senior High School

Characteristics of adolescent of senior high school age; parent-adolescent relationships; problems of parenthood at this age level; community problems affecting youth. Discussion group method.

(5 semester periods)

966 Parent Education — How the Child Learns

School curriculum; the learning process; methods of home study; parent-school relationships.

(2½ semester periods)

967.1 Parent Education — Modern Mathematics (Elementary)

Development and interpretation of the "new mathematics." Introduction to sets; notation and vocabulary; number systems and numeration systems; rational numbers; overview of geometry and measurement.

(2½ semester periods)

967.2 Parent Education — Modern Mathematics (Secondary)

Patterns, concept of number; sets, number line; number operations; factors, multiples, primes; mathematical sentences; geometry; working with sets; systems of numeration.

(2½ semester periods)

968 Parent Education — Understanding the Rapid Learner

Characteristics of giftedness; school programs for the gifted; parent planning for the rapid learner. Guest speakers, lectures, discussions.

970 Parent Education — Retarded Child

Problems centering around the retarded child; his place in the family group, information on causes and treatment of mental deficiency.

(10 semester periods)

972 Parent Education — Physically Handicapped Child

Types of physical handicaps; problems facing the child and his parents; education, rehabilitation, and community resources relating to the child.

973.1 Parent Education — Children with Special Needs

Children's adjustment to the school experience; the school program; home-school cooperation, with emphasis on children with special needs.

973.2 Parent Education — Families with Special Needs

Child care; health and safety; nutrition; money management; time management; home-school cooperation; use of community resources. (Designed for low-income parents)

(5 semester periods)

SUBJECT NO.

974 **Modern Marriage and the Family**

Changing family patterns; intra-family relationships; common strengths and conflicts in marriage and parent-child relationships; home management and family finance.

(5 semester periods)

976 **The One-Parent Family**

Emotional, social, and financial problems in the one-parent family; individual and community resources for meeting needs.

(5 semester periods)

977 **Leadership Training in Human Relations**

Development of leadership for constructive inter-group relations within the community; attitudinal development of individual and family, communication skills, techniques of fostering positive human relations in the community.

(2½ semester periods)

978 **Volunteer Leadership**

Characteristics of leadership; leadership techniques as applied to group activities; practice in public speaking, program planning and committee activity.

(2½ semester periods)

979 **Individual and Family Survival**

Possible reactions of individuals and family groups to great danger; desirable precautions; instructions regarding the most effective measures to be taken in such an emergency.

985-999 HORTICULTURE EDUCATION

SUBJECT NO. *985-999 HORTICULTURE*

986.1 Horticulture 1 — Home Gardening

Fundamentals of propagation and growth of flowers, plants, and trees; skills and techniques of gardening and nursery practice; home gardening.

(5 semester periods)

986.2 Horticulture 2 — Home Gardening

Advanced course in covering soils, watering, cultivation, pest control, fertilization, pruning, and propagation.

(5 semester periods)

989 Landscaping

Planning and laying out a home garden, walks, patios, lawns; selection and location of trees, shrubs, vines, and flowers.

(5 semester periods)

992 Maintenance Gardening

Rules and regulations; organization and procedures; human relations; standards of work; daily work schedules; job planning and problems relevant to gardening services; use and maintenance of power mowers and other power equipment; care of gardening tools; replacement and requisition procedures.

(5 semester periods)

995 Floriculture — Evaluation

Flower show practices; study of materials; point judging; flower and plant arrangement; color and design; contemporary and period landscape effects.

(5 semester periods)

1000-1499 INDUSTRIAL EDUCATION

SUBJECT NO.

1000-1099 APPRENTICESHIP EDUCATION

1004.1 **Auto Mechanics 1 — Appr.**

Auto mechanic and his trade; basic mathematics; tools of trade; lubrication; frames; suspensions and steering; brakes.

(10 semester periods)

1004.2 **Auto Mechanics 2 — Appr.**

Automotive clutches; transmissions; universal joints and final drives; rear axles and differentials; anti-friction bearings; welding.

(10 semester periods)

1004.3 **Auto Mechanics 3 — Appr.**

Principles of the internal combustion engine; measuring tools; cylinder heads, oil pans, blocks and crank cases; crankshafts and flywheels; connecting rods; pistons, wristpins, and rings; valves and their operating mechanisms; engine lubrication, engine cooling; diesel engines.

(10 semester periods)

1004.4 **Auto Mechanics 4 — Appr.**

Automotive fuel systems, carburetion, electricity, and magnetism; storage batteries; generators and their control; starter motors and their control; lighting systems; ignition systems; accessories; tune-up procedure.

(10 semester periods)

1007.1 **Barbering 1 — Appr.**

History and appreciation of barbering; instruments and equipment; honing and stropping; shaving; haircutting, shampoo, tonic, and massage; hygiene, sanitation, and bacteriology; anatomy and physiology of cells; digestion; circulatory systems and bones of the head.

(5 semester periods)

1007.2 **Barbering 2 — Appr.**

Muscles of the head, neck, and face; nervous system; skin; electricity; light therapy; cosmetics, their properties and uses; hair, scalp and skin ailments, diseases; theory of massage; facials; shampoos and scalp treatment; hair coloring; technique of fingerwaving; shop management and barbering ethics.

(5 semester periods)

1010.1 **Boilermaking 1 — Appr.**

Trade appreciation and history, basic blueprint reading; mathematics; materials; hand and power tools; equipment; shop practices; health and safety.

(10 semester periods)

SUBJECT NO.

1010.2 **Boilermaking 2 — Appr.**

Plane and solid geometry; basic algebra; layout problems and practice; construction principles; drawing and sketching; advanced blueprint reading; code; safety.

(10 semester periods)

1010.3 **Boilermaking 3 — Appr.**

Basic metallurgy; flame cutting; welding theory; the steam boiler; codes and safety appliances; construction principles; applied mathematics; steam generator.

(10 semester periods)

1010.4 **Boilermaking 4 — Appr.**

Reaming, riveting, and calking; rigging and erecting; equipment installation and repairing; fitup; burning; cutting and welding; code; safety.

(10 semester periods)

1013.1 **Cabinetmaking and Millwork 1 — Appr.**

Cabinetmaker and his trade; mathematics; bench work; hand tools; machines; blueprint reading; basic detailing and stock billing; principles of construction and layout; safety.

(10 semester periods)

1013.2 **Cabinetmaking and Millwork 2 — Appr.**

Bench work; woods; classifications, uses, working characteristics; seasoning; laminated and synthetic materials; fasteners; glues; drawing and scaling; plan reading, stock billing; layout and machines; safety.

(10 semester periods)

1013.3 **Cabinetmaking and Millwork 3 — Appr.**

Materials; layout; jigs and fixtures; special tools, cutting knives; millwork; molding; fixtures; joints; drawing; applied mathematics; safety.

(10 semester periods)

1013.4 **Cabinetmaking and Millwork 4 — Appr.**

Applied mathematics; layout; drawing; fixtures; millwork; paneling; veneers; abrasives; lacquers, oils, and paints; machine maintenance and adjustments; materials; safety.

(10 semester periods)

1013.5 **Cabinetmaking and Millwork 5 — Appr.**

Fundamentals of drafting; detailing of simple store fixtures, cases, partitions; principles of stock-billing as it applies to millwork and cabinetmaking trades.

(5 semester periods)

SUBJECT NO.

1016.1 **Carpentry 1 — Appr.**

Basic mathematics; blueprint reading; construction problems; layout of walls, floors, foundations.

(10 semester periods)

1016.2 **Carpentry 2 — Appr.**

Legal rights and benefits; roof framing and exterior trim; blueprint reading; mathematics; materials; tool practice.

(10 semester periods)

1016.3 **Carpentry 3 — Appr.**

Employee relations; interior work finish; stair building; mathematics; blueprint reading; tool practice.

(10 semester periods)

1016.4 **Carpentry 4 — Appr.**

History of cement and concrete; form construction; rough hardware; towers; scaffolds, and rigging; ornamental concrete; heavy timber and log construction; blueprint reading; form detailing; mathematics.

(10 semester periods)

1019.1 **Concrete Masonry 1 — Appr.**

Hand and power tools; equipment; materials, proportions, mixing, testing and working characteristics of concrete; safety and health.

(10 semester periods)

1019.2 **Concrete Masonry 2 — Appr.**

Concrete slabs; colored concrete; laying out and finishing steps; grouting; patching defective concrete areas; sanitary cove and straight bases; expansion and contraction; curing and finishing problems; use of mathematical formulas; safety;

(10 semester periods)

1019.3 **Concrete Masonry 3 — Appr.**

Planning, laying out, pouring, and finishing of curbs, gutters, street walks, and driveways; magnesite floors and steps; blueprint reading and mathematics; specialized jobs; industrial relations; health and safety.

(10 semester periods)

1025.1 **Electrical Fixture Fabricating — Lighting Fixtures 1 — Appr.**

Scope and safe practices of the trade; job orientation; Underwriters Laboratories specifications; identification and uses of metal and plastics, hand tools, and power machines.

(5 semester periods)

SUBJECT NO.

1025.2 Electrical Fixture Fabricating — Lighting Fixtures 2 — Appr.

Review of mathematics; linear, angular, circular, area, and volume measurements; drawings; basic and advanced blue-print reading.

(5 semester periods)

1025.3 Electrical Fixture Fabricating — Lighting Fixtures 3 — Appr.

Principles and application of rectangular, circular, and multi-piece pattern development and shop layout.

(5 semester periods)

1025.4 Electrical Fixture Fabricating — Lighting Fixture 4 — Appr.

Rules of parallel line development, radial line development for conical shapes, and rectangular pyramids and tapers.

(5 semester periods)

1028.1 Electrical Wireman 1 — Appr.

Electrical units, Ohm's Law; power; measurements of wire; wire tables; resistance of wire; voltage drop; magnetic principles and circuits; mathematics; blueprint reading; safety.

(5 semester periods)

1028.2 Electrical Wireman 2 — Appr.

Continuation of Electrical Wireman 1; advanced problems; industrial relations; electrical algebra; fundamentals of D.C. electric machines and equipment; electrical circuit diagrams and sketches; safety and health; applied codes and ordinances.

(5 semester periods)

1028.3 Electrical Wireman 3 — Appr.

Continuation of Electrical Wireman 2; advanced electrical problems; use of electrical algebra, geometry, and trigonometry in estimating properties of electrical circuits; principles of alternating current; alternating equipment; transformers and lighting; basic industrial electricity.

(5 semester periods)

1028.4 Electrical Wireman 4 — Appr.

Supplements Electrical Wireman 3; laws, rules, and ordinances applied to electrical materials, equipment, and installations; A.C. Motors; alternator; manual and electromagnetic controllers; components; and wiring diagrams with schematics.

(5 semester periods)

1028.5 Electrical Wireman 5 (Codes and Ordinances 1) — Appr.

Introduction to state and local codes and ordinances for installation of electrical materials and equipment as covered in Electrical Wireman 1; equipment and material identification;

SUBJECT NO.

blueprints, specifications and general wiring methods with code applications; introduction to wiring of residential dwellings.

(5 semester periods)

1028.6 Electrical Wireman 6 (Codes and Ordinances 2) — Appr.

State and local codes and ordinances for installation of electrical material and equipment as covered in Electrical Wireman 2. Residential wiring with code applications.

(5 semester periods)

1028.7 Electrical Wireman 7 (Codes and Ordinances 3) — Appr.

State and local codes and ordinances for installation of electrical material and equipment as covered in Electrical Wireman 3. Commercial wiring with code applications.

(5 semester periods)

1028.8 Electrical Wireman 8 (Codes and Ordinances 4) — Appr.

State and local codes and ordinances for installation of electrical material and equipment as covered in Electrical Wireman 4. Industrial wiring with code applications.

(5 semester periods)

1037.1 Floor Covering — Resilient and Carpeting 1 — Appr.

History and appreciation of the floor covering trade; tools and equipment; safety and health; materials.

(10 semester periods)

1037.2 Floor Covering — Resilient and Carpeting 2 — Appr.

Mathematics; blueprint reading; cove base installation; application of resilient floor tile; basic employment information.

(10 semester periods)

1037.3 Floor Covering — Resilient and Carpeting 3 — Appr.

Problems of the trade; linoleum laying; sink covering; wall covering; carpet laying.

(10 semester periods)

1043.1 Household Appliance Servicing 1 – Appr.

Customer relations; installation and servicing; electricity; mechanical equipment; metals, plastics, glass, and other appliance materials; lubricants; refrigeration; service manual use; safety.

(10 semester periods)

1046.1 Ironworking — Architectural and Ornamental 1 — Appr.

Orientation; trade appreciation; tools and equipment; principles of ironworking; materials; drawing and layout; mathematics; related science; basic employment information; erection of ornamental ironwork; safety.

(10 semester periods)

SUBJECT NO.

1046.2 Ironworking — Architectural and Ornamental 2 — Appr.

Advanced drawing; rigging and moving; first-aid; erection of reinforced iron; bluprint reading; layout and detailing; safety.

(10 semester periods)

1046.3 Ironworking — Architectural and Ornamental 3 — Appr.

Erection of structural steel, sheeting, and fencing; welding and burning; safety.

(10 semester periods)

1049.1 Ironworking — Reinforcing 1 — Appr.

Orientation; tools, equipment, and materials; basic drafting and mathematics; basic health, safety, and employment information.

(10 semester periods)

1049.2 Ironworking — Reinforcing 2 — Appr.

Advanced drawing and blueprint reading; principles and practices of rigging and of erecting reinforcing iron; advanced mathematics and related science; welding; principles and practices of structual and ornamental ironworking.

(10 semester periods)

1052.1 Ironworking — Structural and Ornamental Erectors 1 — Appr.

Orientation; basic employment information; basic mathematics and related science; materials, tools and equipment; elementary blueprint reading; basic processes.

(10 semester periods)

1052.2 Ironworking — Structural and Ornamental Erectors 2 — Appr.

Basic employment information; mathematics; materials, tools and equipment; advanced blueprint reading; rigging and reeving; processes.

(10 semester periods)

1052.3 Ironworking — Structural and Ornamental Erectors 3 — Appr.

Erection of reinforced iron, including forms, typing, handling, and layout; blueprint reading; welding and burning; erection of ornamental ironwork, sheeting, fences, and service station; safety.

(10 semester periods)

1055.1 Ironworking — Structural and Ornamental Fabricators 1 — Appr.

Trade orientation; equipment; materials; basic arithmetic; elementary drawing; safety.

(10 semester periods)

1055.2 Ironworking — Structural and Ornamental Fabricators 2 — Appr.

Basic arithmetic; elementary drawing; processes; materials; equipment; human relations; safety.

(10 semester periods)

SUBJECT NO.

1055.3 **Ironworking — Structural and Ornamental Fabricators 3 — Appr.**

Logarithms; Smoley's tables; layout and template making; processes; human relations; safety.

(10 semester periods)

1055.4 **Ironworking — Structural and Ornamental Fabricators 4 — Appr.**

Structural trigonometry; layout and template making; human relations; industrial economics; safety.

(10 semester periods)

1064.1 **Meat Cutting 1 — Appr.**

Meat cutter and his trade; basic mathematics; scales and cash registers; indentification, selection of meats and meat products; design, upkeep of shop equipment; shop sanitation; safety.

(10 semester periods)

1064.2 **Meat Cutting 2 — Appr.**

Laws governing production and sale of meat and meat products; breaking and cutting beef, veal, lamb, mutton, pork; poultry, rabbits, fish; display of meats; cooking methodology; advanced salesmanship; market management; cured and smoked meats; industrial relations; safety.

(10 semester periods)

1071 **Printing — New Processes — Appr.**

Appreciation and understanding of the position of new techniques in the printing trades; orientation, paste makeup and hand ruling, display machine operation, dark-room procedures and techniques, basic negative imposition, use of camera, and mechanical pen ruling.

(10 semester periods)

1072 **Printing — Orientation — Appr.**

Overview of the graphic arts industry, designed to acquaint the apprentice with how his work affects, and is affected, by every other area in the trade.

(10 semester periods)

1073.1 **Roofing — Build-up and Composition 1 — Appr.**

Trade history and orientation to the apprenticeship program; applied mathematics; materials and their application; materials handling; basic specifications and codes; hand tools; safety.

(10 semester periods)

1073.2 **Roofing — Build-up and Composition 2 — Appr.**

Blueprint reading, roofing problems, foundation and slab waterproofing, operation of power equipment; specifications, codes and safety.

(10 semester periods)

SUBJECT NO.

1073.3 Roofing — Build-up and Composition 3

The apprentice system; mathematics for the roofer; tools, equipment and machinery; roofing materials and their application; blueprint reading and specifications.

(10 semester periods)

1076.1 Sheet Metal 1 — Appr.

Care and use of hand and power tools, instruments, and equipment; materials and sheet metal processing; blueprint reading; mathematics, including basic geometry; layout principles and practices; plastics; health and safety.

(10 semester periods)

1076.2 Sheet Metal 2 — Appr.

Application of principles of pattern layout; developing and reading plans, work drawings; designing, and detailing; developing patterns for articles, fittings, and projects; air conditioning, heating and ventilating systems; interpretation and use of mathematical formulas; safety; federal, state, and local laws affecting the sheet metal worker.

(10 semester periods)

1076.3 Sheet Metal 3 — Appr.

Advanced study of plan reading; developing work drawings, designing, detailing and layout of patterns for kitchens, fountains, and bar equipment; projects and fittings for exhaust, blowpipe, and refuse collecting systems; plastics; applications of mathematical formulas in fixturing area; volume fire prevention; safety; building codes and ordinances.

(10 semester periods)

1076.4 Sheet Metal 4 — Appr.

Specific and more complex phases of planning, detailing, designing, and developing of work drawings and layout of patterns; specialized work, such as on electric signs, marquees, and heating systems; plastics; advanced mathematics; estimating; health and safety.

(10 semester periods)

1079.1 Surveying 1 — Appr.

Definition of surveying terms; maintenance of tools and equipment; measurement of horizontal distances; use of leveling rod; field communications; engineering lettering and basic drafting; safety.

(5 semester periods)

1079.2 Surveying 2 — Appr.

Trigonometric functions of an acute angle; logarithms; introduction to slide rule; tables of trigonometric functions; interpolation of tables; solution of right triangles; solution of oblique triangles; trigonometry applied to survey problems.

(5 semester periods)

SUBJECT NO.

1079.3 **Surveying 3 — Appr.**

Survey accuracy requirements; basic theory of errors; corrections of taped measurements; leveling; survey sights and signals.

(5 semester periods)

1079.4 **Surveying 4 — Appr.**

Angular measurements; circular curves; vertical and spiral curves; referencing survey points; public relations.

(5 semester periods)

1079.5 **Surveying 5 — Appr.**

Traverse surveys; traverse adjustments and area problems; electronics surveys; hydrographic surveys; researching for survey data.

(5 semester periods)

1079.6 **Surveying 6 — Appr.**

Theory of stadia; topographic surveys; photogrametric surveys; architectural surveys.

(5 semester periods)

1079.7 **Surveying 7 — Appr.**

Practical astronomy; construction surveys; property surveys; laws affecting the surveyor.

(5 semester periods)

1079.8 **Surveying 8 — Appr.**

United States public land surveys; triangulation and trilateration; techniques of instruction; public relations seminar.

(5 semester periods)

1081.1 **Tool and Die 1 — Appr.**

Mathematics as applied to the development of tools, dies, jigs, fixtures, various types of gauges and instruments; blueprint reading and technical theory involved in methods and processes of tool and die making.

(10 semester periods)

1090.1 **Plumbing 1 — Appr.**

Tools and equipment, plumbing fixtures, cast iron pipe and fittings, safety practices.

(5 semester periods)

1090.2 **Plumbing 2 — Appr.**

Installation of finish plumbing, valves, installation of steel pipe, hangers and supports.

(5 semester periods)

SUBJECT NO.

1090.3 Plumbing 3 — Appr.

Basic drawing, orthographic representation, isometric representation.

(5 semester periods)

1090.4 Plumbing 4 — Appr.

Applied trade mathematics, glass piping, non-metallic piping, plan reading.

(5 semester periods)

1090.5 Plumbing 5 — Appr.

Principles of operation and installation of waste and vent systems.

(5 semester periods)

1090.6 Plumbing 6 — Appr.

Principles and sizing of domestic water systems, distribution of hot water, potable water systems, gas supply systems.

(5 semester periods)

1090.7 Plumbing 7 — Appr.

Principles and operation of oxy-acetylene welding equipment, techniques for making oxy-acetylene welds.

(5 semester periods)

1090.8 Plumbing 8 — Appr.

Plumbing code, additions to plumbing code.

(5 semester periods)

1090.9 Plumbing 9 — Appr.

Gas controls, repair plumbing, fire protection.

(5 semester periods)

1090.10 Plumbing 10 — Appr.

Plumbing layout, sizing of gas and water systems, water distribution systems, material take-off.

(5 semester periods)

1100-1499 TRADE AND TECHNICAL EDUCATION

SUBJECT NO.

1100-1124 AERO SPACE

1101 **Fundamentals of Inertial Guidance Systems**

Basic concepts, purpose and method of inertial guidance systems; accelerometers; gyroscopes; and system components.

(2½ semester periods)

1104 **Gyroscope Theory**

Basic operating principles, terminology, and characteristics of gyroscopes; characteristics of precession; types of gyroscopes.

(2½ semester periods)

1125-1149 AUTOMOTIVE

1126.1 **Auto Mechanics 1**

Shop and theory; internal combustion engines; fundamentals of maintenance and repair; use and care of hand tools and power equipment.

(5 semester periods)

1126.2 **Auto Mechanics 2**

Shop and theory; overhauling engines, clutches, rear-end and drive assemblies; lubrication.
Prerequisite: Auto Mechanics 1 or equivalent.

(5 semester periods)

1126.3 **Auto Mechanics 3**

Shop and theory; overhauling generators, distributors, carburetors, fuel pumps, cooling systems, and engines.
Prerequisites: Auto Mechanics 1 and 2 or equivalent.

(5 semester periods)

1129 **Auto Brakes**

Shop and theory; braking systems; brake shoe binding, brake adjustments; use and care of hand and power equipment.
Prerequisites: Auto Mechanics 1 and 2 or equivalent.

(5 semester periods)

1132.1 **Auto Electrics 1**

Overhaul and repair of automobile ignition, and of electrical, fuel, and carburetion systems.
Prerequisites: Auto Mechanics 1, 2, 3, or equivalent.

(5 semester periods)

SUBJECT NO.

1132.2 Auto Electrics 2

Electrical testing; trouble shooting; tune-up of automobile ignition, and of electrical, fuel, and carburetion systems.
Prerequisites: Auto Mechanics 1, 2, 3, or equivalent.

(5 semester periods)

1133 Heavy Duty Brakes

Advanced study of hydraulic brakes system, electrical brakes system, vacuum power brakes system; air brakes, governors, air starting motors, trailer air brakes; tires, wheels, and steering; vehicle code and regulations.

(5 semester periods)

1134 Heavy Duty Electrical and Carburetion Systems

Truck electrical system, including distributors, storage batteries, starter motors and their controls, alternators, regulators, generators, rectifiers; carburetion and fuel systems, including chokes, air filters, manifolds, and superchargers.

(5 semester periods)

1135 Automatic Transmissions

Shop and theory; disassembling, assembling; adjusting automatic transmissions.
Prerequisites: Auto Mechanics 1, 2, 3, or equivalent.

(5 semester periods)

1138.1 Auto Tune-Up 1

Shop and theory; electrical, carburetor, and fuel systems; checking engine performance and making tests and adjustments.
Prerequisites: Auto Mechanics 1, 2, 3, or equivalent.

(5 semester periods)

1138.2 Auto Tune-Up 2

Advanced instruction in automobile tune-up; checking complete engine performance; making tests and adjustments; use of dynamometer.
Prerequisites: Auto Mechanics 1, 2, 3, or equivalent.

(5 semester periods)

1141 Power Steering and Power Brakes

Shop and theory; maintenance and repair; use of testing and special equipment demonstrations of various systems.
Prerequisites: Auto Mechanics 1, 2, 3, or equivalent.

(5 semester periods)

1142 Automobile Air Conditioning

Development of an understanding of automobile air conditioning units and instruction in their installation and servicing; intended for automobile mechanics.

SUBJECT NO.

1144.1 Auto Body and Fender Repair 1

Shop and theory; rudiments of removing and replacing bent and buckled metal; use of equipment and tools; soldering, welding, grinding, and sanding.

(5 semester periods)

1144.2 Auto Body and Fender Repair 2

Shop and theory; replacing and aligning damaged side panels, turret tops, fenders, hoods; lead filling; welding and cutting metals.
Prerequisites: Auto Body and Fender Repair 1 or equivalent.

(5 semester periods)

1145 Automotive Detailing

Shop and theory; washing, polishing, waxing, steam cleaning; painting touchup; interior cleaning; spotting and detailing.

(2½ semester periods)

1146 Diesel Engines

Fuel systems, gear trains, cylinder heads, piston and sleeves, crank shaft, cylinder blocks, cam shaft, cooling system, valve train, accessories, and lubrication.

(5 semester periods)

1147 Diesel Locomotive Maintenance

Operation and repair of diesel electric engines; including schematic writing prints; trouble shooting; engine hunting; Acco locomotive running gear; and road trouble precautions.

(2½ semester periods)

1148 Outboard Motor Repair

Internal engine components; external engine components; gearings and drive line; mounting; controls; greasing and lubrication; special and essential measuring; reading and understanding service manuals.

(5 semester periods)

1150-1174 BUILDING CONSTRUCTION

1151.1 Building Codes 1

History of the building changes; permits, occupancies, fire districts, types of construction; exits, fire resistant construction; dwellings; apartment houses, commercial buildings; zoning requirements and other related subject matter of interest to architects, engineers, draftsmen, and contractors.

(5 semester periods)

SUBJECT NO.

1151.2 **Building Codes 2**

Strength of materials; loading on structural members; size and material of structural members; joint analysis and connectors; roof diaphragms, front frame analysis; retaining walls and pools; soil problems relative to building footings; grading in hillside areas.

(5 semester periods)

1151.3 **Building Codes 3 — Plumbing**

Codes and ordinances required for the installation of plumbing materials and equipment, including definitions; regulations concerning quality and weights of materials; drainage systems, vents and venting, indirect waste piping, wet vented systems, special wastes, traps and interceptors; joints and connections; plumbing fixtures; water distribution; house sewers and private sewer disposal systems; fuel gas piping; water heaters and vents; backflow protection and cross-connections; fire sprinklers and standpipes.

(5 semester periods)

1151.4 **Building Codes 4 — Zoning**

A review and study of the zoning ordinances, city of Los Angeles; allowable zone uses; lot cuts; required yards; building heights; parking; loading zones; accessory buildings; special exceptions and variances.

(5 semester periods)

1154.1 **Plumbing Code 1**

Plumbing codes and ordinances that affect rough-in and finish work in city and county areas.

(5 semester periods)

1154.2 **Plumbing Code 2**

Requriements for installation of wastes, vents, cleanouts, traps, gas fittings, and water pipes; installation of domestic fixtures, hospital equipment, and industrial equipment.

(5 semester periods)

1157 **Building Inspection — Reinforced Masonry**

Duties and responsibilities of the building inspector; code coverage of reinforced masonry; trade practices and other related material of interest to the building inspector.

(5 semester periods)

1160 **Building Inspection — Reinforced Concrete**

Duties and responsibilities of the building inspector; code coverage of reinforced concrete; trade practices and other related material of interest to the building inspector.

(5 semester periods)

1163 **Building Construction Estimating**

Fundamentals of estimating; material take-off; unit work breakdown; use of check list; general building information tables; material lists; sub-contracts of allied trades; labor costs; general contracting laws; local and state codes.

(5 semester periods)

SUBJECT NO.

1166 Painting and Decorating Estimating

Fundamentals of estimating and blueprint reading; take-off; unit price breakdown; residential, industrial, mechanical painting.

(5 semester periods)

1168 Paper Hanging

History of the paper hanging trade; selection of wall coverings; estimating; preparation of walls and surfaces; skills of paper hanging; customer relations; safety.

(5 semester periods)

1169.1 Brickmasonry, Journeyman 1

Review of brick masonry fundamentals; blueprint reading; mathematics.

(5 semester periods)

1169.2 Brickmasonry, Journeyman 2

Advanced instruction in contracting requirements; safety standards; building codes; layout; principles of reinforced brick masonry.
Prerequisite: Brickmasonry 1 or equivalent.

(5 semester periods)

1170 Drywall Installation

History of the drywall process and orientation to the training programs; applied mathematics; blueprint reading; board, metals, and adhesives and their application; handling of materials; basic specifications and codes; hand tools; power tools; safety; basic employment information.

(20 semester periods)

1172 Home Planning and Remodeling

Planning and execution of building projects, including foundations, roofs, installation of partitions, elementary lighting, plumbing, and general repair.

(5 semester periods)

1175-1249 DRAFTING AND DESIGN

1176.1 Blueprint Reading 1

Fudamentals of blueprint reading, alphabet of lines, orthographic projections, symbols, specifications.

(5 semester periods)

1176.2 Blueprint Reading 2

Interpretation of three-view drawings, sections, isometric and oblique drawing; development

of plans, elevations and details, pencil tracings, sketching; reading of blueprints, both for mechanical and architectural fields.
Prerequisite: Blueprint reading 1 or equivalent.

(5 semester periods)

1179 **Blueprint Reading — Aircraft**

Reading types of prints used by various aircraft companies; numbering systems; engineering orders, engineering changes; specialized machine shop prints, sheet metal prints; practical problems in assembly and installation.

(5 semester periods)

1182 **Blueprint Reading — Cement Masons**

Fundamentals of blueprint readings as related to the cement mason's trade; symbols; specifications; abbreviations; methods of construction; techniques and standards.

(5 semester periods)

1185.1 **Basic Drafting 1**

Basic drafting techniques; tool skills and processes common to all types of drafting work; related information for making plans or sketches; interpretation of non-technical plans and blueprints; introduction to sketching.

(5 semester periods)

1185.2 **Basic Drafting 2**

Continuation of basic drafting techniques, stressing additional fundamentals that are prerequisite to advanced drafting courses.

(5 semester periods)

1188.1 **Mechanical Drafting 1**

Orthographic and isometric drawings of machine parts, shop details and sections; orthographic and pictorial drawings of machine parts, shop details, auxiliary projections, screws and threads; geometrical problems and development; mechanical motions; rivets, keys and fastenings; shop detailing.
Prerequisite: Basic Drafting or equivalent.

(5 semester periods)

1188.2 **Mechanical Drafting 2**

Shades and shadows; machine design; tool design; mechanical forms; gears; cams; assembly drawings from details; details from assemblies; tolerances; patent drawings; exploded drawings; work geared to field of study needed by the student.
Prerequisite: Mechanical Drafting 1 or equivalent.

(5 semester periods)

1189 **Machine Drafting Detailing**

Introduction to machine drafting detailing and assembly, with emphasis on design funda-

SUBJECT NO.

mentals; manufacturing processes; drafting room procedures; techniques required in industry.
Prerequisite: Mechanical Drafting or equivalent.

(5 semester periods)

1190 **Electro-Mechanical Drafting**

An advanced drafting course planned particularly for those who have had basic drafting techniques; consists of a series of graded projects of working drawings as applied to electronic and electri-mechanical phases of engineering; stress placed on professional techniques which are required by industry and on special symbols, circuitry, printed circuitry, miniaturization, servo-mechanism, and instrumentation.
Prerequisite: Mechanical Drafting or equivalent.

(5 semester periods)

1191.1 **Technical Illustration 1**

Isometric and orthographic projections; oblique and perspective drawings; freehand sketching and technical drawing of parts and assemblies; translation of mechanical drawings and blueprints to pictorial illustrations; proper tools and materials; processes for reproducing illustrations.
Prerequisite: Mechanical Drafting or equivalent.

(5 semester periods)

1191.2 **Technical Illustration 2**

Continuation of basic techniques, stressing additional fundamentals prerequisite to advanced technical illustration courses.
Prerequisite: Mechanical Drafting or equivalent.

(5 semester periods)

1192 **Airbrush Painting**

Basic airbrush application with reference to function, use, proper care; techniques in photo retouching; opaque and transparent renderings; use of various materials and mediums to reproduce glass, wood, clouds, and other textures.
Prerequisite: Technical Illustration or equivalent.

(5 semester periods)

1194.1 **Architectural Drafting 1**

Floor plans; elevations; details of small and large residences; study of building ordinances and materials; historic styles; sketching, shading, perspective, and simple rendering.
Prerequisite: Basic Drafting or equivalent.

(5 semester periods)

1194.2 **Architectural Drafting 2**

Historic styles of structure; classification of buildings; graphic status; architectural design; presentation drawings; working drawings for various types of construction; specification writing based on building codes.
Prerequisite: Architectural Drafting 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1194.3 Architectural Drafting 3

Shop and theory; basic information and skills for drawing simple house plans and architectural details; construction as required by Los Angeles city building codes; emphasis on architectural problems; family requirements; building costs; floor plans; foundation plans; framing sections; elevations; and plot plans.
Prerequisites: Architectural Drafting 1 and 2 or equivalent.

(5 semester periods)

1194.4 Architectural Drafting 4

Shop and theory; basic information and skills for drawing simple house plans and architectural details; construction as required by Los Angeles city building codes; emphasis on construction detailing, windows and doors, fireplaces and chimneys, stair layouts, cabinets, foundations of two-story dwellings, symbols, new building materials, and heating.
Prerequisites: Architectural Drafting 1, 2, and 3 or equivalent.

(5 semester periods)

1194.5 Architectural Drafting 5

Shop and theory; basic information and skills for drawing house plans and architectural details for one- and two-story or split level construction; construction to conform to latest Los Angeles city building code, with emphasis on plans, details, symbols, styling, sites, plumbing, electrical work, and sections.
Prerequisites: Architectural Drafting 1, 2, 3, and 4 or equivalent.

(5 semester periods)

1197 Sheet Metal Layout and Development — Aircraft

Principles of aircraft sheet metal flat pattern layout; theory of bend development; use of projection methods to determine required information; review of basic mathematics through shop trigonometry.

(5 semester periods)

1200.1 Sheet Metal Air Conditioning and Pattern Development 1

Parallel line development of various types of ducts; radial line development of cones, various frustums, and colors; blueprint reading; interpretation of specifications.

(5 semester periods)

1200.2 Sheet Metal Air Conditioning and Pattern Development 2

Advanced study of trade terms, including engineering language; triangulations or round and rectangular duct layout; trade mathematics.

(5 semester periods)

1203.1 Sheet Metal Detailing 1

Interpreting plans and specifications in designing and ordering sheet metal products; reading of structural, architectural, electrical, plumbing, and air conditioning drawings.

(5 semester periods)

SUBJECT NO.

1203.2 Sheet Metal Detailing 2

Understanding of basic duct designs; organizing and planning a job; making field drawings and order sheets.
Prerequisite: Sheet Metal Detailing 1 or equivalent.

(5 semester periods)

1206.1 Sheet Metal Detailing, Journeyman 1

Reading and interpretation of structural, architectural, electrical, plumbing, air conditioning drawings; certified drawings; trade terms; use of slide rule.

(5 semester periods)

1206.2 Sheet Metal Detailing, Journeyman 2

Designing of ducts for air conditioning and ventilating systems; theory of air flow, velocity reduction, static regain, and equal friction methods; making of field drawings; order and specification sheets; organizing and placing a job.
Prerequisites: Sheet Metal Detailing 1 and 2 or equivalent.

(5 semester periods)

1208 Sheet Metal — Stainless Steel Equipment

Designing, detailing, and layout of patterns for kitchen, fountain and bar equipment.

(10 semester periods)

1209 Structural Steel Detailing

Review of drafting techniques; layout of drawings; blueprint reading; related mathematics processes; technical information on design, assembly, and fabrication of structural steel.
Prerequisite: Basic Drafting or equivalent.

(5 semester periods)

1212 Casting Layout

Review of basic blueprint reading, mathematics, and trigonometry fundamentals of castings and cores; use of necessary tools and equipment pertinent to inspection and machine layout.
Prerequisite: Basic Drafting or equivalent.

(5 semester periods)

1215 Tool Design — Basic

Review of drafting techniques; dimensions; preliminary layout of drawings, mathematical processes; technical information on types of tools, physical properties of metals, tooling, processes, and materials.
Prerequisites: Mechanical Drafting 1 and 2 or equivalent.

(5 semester periods)

1218 Machine Tool Design

Drawing and layout of machines, shifts, bearings, gears, and fasteners; technical information on tools, processes, and materials.
Prerequisite: Basic Tool Design or equivalent.

(5 semester periods)

1221 Gear Design — Basic

Nomenclature of gears; involute curves; mathematics and formulas; types of gears; materials; heat treating; machines and methods used in gear cutting; gear use and applications; assembly and inspection.
Prerequisites: Mechanical Drafting 1 and 2 or equivalent.

(5 semester periods)

1224.1 Assembly Jigs and Fixture Design 1

Drawing and layout of assembly jigs and fixtures; detail of component parts and sequence of tool design.
Prerequisites: Mechanical Drafting 1 and 2 or equivalent.

(5 semester periods)

1224.2 Assembly Jigs and Fixture Design 2

Advanced study of technical information on tooling, processes, metallurgy, and materials.
Prerequisite: Basic Tool Design or equivalent.

(5 semester periods)

1227.1 Dies, Machine Jigs, and Fixture Design 1

Drawing and layout of major machine jigs and fixtures; forming die design.
Prerequisites: Mechanical Drafting 1 and 2 or equivalent.

(5 semester periods)

1227.2 Dies, Machine Jigs, and Fixture Design 2

Continuation of technical information on tooling, processes, metallurgy, and materials pertaining to machine jigs and fixture design.
Prerequisites: Dies, Machine Jigs and Fixture Design 1.

(5 semester periods)

1230.1 Testing Equipment Design 1

Drawing and layout of testing equipment.

(5 semester periods)

1230.2 Testing Equipment Design 2

Advanced study of technical information on tooling, metallurgy, and materials.
Prerequisite: Testing Equipment Design 1 or equivalent.

(5 semester periods)

1233 Cadastral and Topographic Mapping

Fundamentals as practiced and applied by private and public agencies; surveying and title; mathematics of mapping; principles of mapping; mapping job procedures; mechanics of map making.

(5 semester periods)

SUBJECT NO.

1235 **Basic Principles of Photogrammetry**

Review of current photogrammetric methods as applied to medium and large-scale mapping requirements; flight planning procedures and stereo-plotting techniques; emphasis on the theory and practice of field control layout for the aerial mapping project.

(5 semester periods)

1250-1329 ELECTRICAL AND ELECTRONIC

1251.1 **Basic Electricity 1 — Direct Current Theory**

Introduction to electrical terminology and definitions; laws of electricity and magnetism; instruments and measurements; electro-magnetic induction; the generator and motor; wiring; mathematics and blueprint reading as applied to D.C.

(5 semester periods)

1251.2 **Basic Electricity 2 — Alternating Current Theory**

Characteristics of alternating current; inductance, capacitance; reactance; impedance; power and power factors; laws of series and parallel circuits; principles and characteristics of A.C. machinery and transformers; blueprint reading and mathematics as applied to A.C.
Prerequisite: Direct Current Theory or equivalent.

(5 semester periods)

1254.1 **Electrical Wiring Theory 1**

Principles of electrical wiring for light and power.

(5 semester periods)

1254.2 **Electrical Wiring Theory 2**

Advanced study of motor control devices; power metering and meter testing; codes and ordinances; estimating.
Prerequisites: Direct Current Theory, Alternating Current Theory, or equivalent.

(5 semester periods)

1257 **Electrical Wiring and Code**

Principles of electrical wiring for light and power, with emphasis upon the national and local codes; wiring systems; electrical systems; methods of installation; motor control devices and power metering and meter testing.

(5 semester periods)

1260 **Electrical Codes and Ordinances**

Codes and ordinances required for the installation of electrical materials and equipment by state and local enforcement agencies.

(5 semester periods)

1263 **Electrical Estimating**

Methods of estimating electrical installations, unit quantities and costs; approximate and final estimates; development of contracts and specifications; emphasis on state, federal, and underwriters' codes.

(5 semester periods)

1266.1 **Electrical Power Generation and Distribution 1**

Power distribution; electrical generation; receiving stations and system load dispatching.

(5 semester periods)

1266.2 **Electrical Power Generation and Distribution 2**

Distributing stations; transformers; distribution capacitors; overhead distribution system and underground distribution system.

(5 semester periods)

1266.3 **Electrical Power Generation and Distribution 3**

Rules and regulations for overhead electric line construction and electrical safety orders; observance of requirements of the Public Utilities Commission and Department of Industrial Relations.

(5 semester periods)

1267 **Electro-Mechanical Assembly**

A study of the basic fundamentals of assembly; sub-assembly production techniques; blueprint reading and schematics drawings; other skills required by the Electronic Production and Manufacturing Industry; theory and practice of planning; use of tools; selection of materials; fabrication and packaging as related to this field.

(5 semester periods)

1269.1 **Electronic Production Techniques 1**

Fundamentals in electronic production; use of hand tools necessary to make electronic assemblies; new techniques of production wiring and soldering.

(5 semester periods)

1269.2 **Electronic Production Techniques 2**

Continuation of types of wire used; wire preparation; electronic component evaluation and assembly methods; proper insulating and sleeving applications.

(5 semester periods)

1270 **Electronics — Inspection**

Analysis of wiring, cable, and schematic diagrams; commercial and military specifications for components, hardware, and material; inspection procedures for mechanical and electrical assemblies.

(5 semester periods)

SUBJECT NO.

1272 **Electronic Fundamentals and Schematics**

Introduction to electrical terminology and definitions; laws of electricity and magnetism; D.C. and A.C. circuit analysis; reading of schematic diagrams; principles of the vacuum tube.

(5 semester periods)

1275.1 **Electronics — Fundamentals 1** (Direct Current Theory)

Electron theory; electrostatics; definitions; electromatic force; sources of electrical energy; Ohm's law; conductors; circuits; magnetism; Kirchoff's laws; inductance.
Prerequisites: Electronics Mathematics 1 and 2, or qualifying test.

(5 semester periods)

1275.2 **Electronics — Fundamentals 2** (Alternating Current Theory)

Sine wave; frequence; values; phase and angle; inductors; capacitors; impedance; power; networks; transformers; time constants; rotary transformers; saturable reactors.
Prerequisites: Electronics Fundamentals 1, Electronics Mathematics 1 and 2, or qualifying test.

(5 semester periods)

1275.3 **Electronics — Fundamentals 3** (Vacuum Tube Application and Amplifier Theory)

Thermionic emission; primary and secondary emission; diode; triode; linear and non-linear charactersitics; tube characteristics; bais control; amplification; transconductance; types of tubes.
Prerequisites: Electronics Fundamentals 1 and 2, Electronics Mathematics 1 and 2, or qualifying test.

(5 semester periods)

1275.4 **Electronics — Fundamentals 4** (Vacuum Tube Application and Amplifier Theory)

Single stage and multi-stage amplification; R-C coupling; transformer coupling; audio and radio frequency amplifiers; hi-fidelity techniques; oscillators; rectifiers.
Prerequisites: Electronics Fundamentals 1, 2 and 3, and Electronics Mathematics 1 and 2, or qualifying test.

(5 semester periods)

1275.5 **Electronics — Fundamentals 5** (Semi-Conductor Devices)

Semi-conductor materials and physics of their structure; diodes; transistors; types of circuit application; frequency response.
Prerequisites: Electronics Fundamentals 1, 2, 3, and 4; Electronic Mathematics 1 and 2, or qualifying test.

(5 semester periods)

1278 **Electronic Test Equipment**

Emphasis on theory and use of meters, oscilloscopes, signal generators, oscillators, bridges, tube and transistor checkers; power and frequency measurement devices; meggers; batteries.

(5 semester periods)

SUBJECT NO.

1279 **Electronic Instrumentation**

Various types and kinds of instrumentation available and needed by industry; theory and practice of measuring devices as they apply to commercial and government standards.

(5 semester periods)

1281.1 **Electronics — Mathematics 1**

Fundamental algebraic operations, geometric equations, roots and exponents, logarithms, basic trigonometry; imagery functions; graphs and functions with applications to electronic problems.

(5 semester periods)

1281.2 **Electronics — Mathematics 2**

Quadratic equations, complex numbers, determinants, and introduction to calculus as applied to electronic problems.
Prerequisite: Electronics Mathematics 1 or equivalent.

(5 semester periods)

1284 **Industrial Electronics — Basic**

Review of electrical theory as applied to electronics; components; electronic tube fundamentals; electric instruments; component testing; tube circuits.
Prerequisite: Electronic Fundamentals or equivalent.

(5 semester periods)

1287 **Industrial Electronic Circuits**

Vacuum circuits, gas-filled tubes and circuits; photo-electric and thermo-electric devices; rectifier circuits; phase shift controls; saturable reactors; tube control of motors; wiring and testing of circuits.
Prerequisite: Electronic Fundamentals or equivalent.

(5 semester periods)

1290 **Industrial Electronic Equipment**

Resistance welding controls; temperature recorders; photo-electric relays; supersonic devices; dielectric and induction heating equipment; electronic motor drives and speed controls; miscellaneous equipment.

(5 semester periods)

1292 **Traffic Signal Circuitry**

Fundamentals of traffic signal controllers; basic Circuit and design; principles of operation with relation to traffic; related auxiliary equipment; construction principles and field trouble shooting methods needed to install and maintain traffic signal systems.

(5 semester periods)

SUBJECT NO.

1293 **Industrial Electronic Equipment Test and Measurement**

Application and installation of equipment; test equipment, test procedures; preventable maintenance; electronic instrumentation and automation.
Prerequisite: Electronics Fundamentals or equivalent.

(5 semester periods)

1294 **Process Instrumentation**

Instrument identification symbols and letters; pressure instruments; volumetric expansion and pressure actuated thermometers; electronic temperature measurement; fundamentals of automatic control; liquid level measurement; control and relief valves; flow measurement; instrument specification writing.

(10 semester periods)

1296.1 **Radio Servicing 1**

Shop and theory; fundamentals of electricity and radio transmission and reception.

(5 semester periods)

1296.2 **Radio Servicing 2**

Continuation of shop work on transmitters, receivers, amplifiers, oscillators, test equipment, and radio servicing.
Prerequisite: Radio Servicing 1 or equivalent.

(5 semester periods)

1299.1 **Radio and Television Servicing 1**

Shop and theory; principles of radio frequencies, amplifiers in FM and TV receivers; work on amplifiers, detectors, rectifiers; repair and testing of televsiion receivers and radio receivers.
Prerequisite: Radio Servicing or equivalent.

(5 semester periods)

1299.2 **Radio and Television Servicing 2**

Shop and theory; I.F. amplifiers and detectors; video amplifiers and D.C. restorer; synchronizing circuits; sweep circuits; power supplies; picture tubes; frequency modulation and television receiver alignment; testing and alignment of special television circuits; projector type receivers; use of special test equipment.
Prerequisite: Radio and Television Servicing 1 or equivalent.

(5 semester periods)

1302 **Communications — Telephone**

Fundamentals of installation and maintenance of telephone equipment and switchboard currents; study of Ohm's law, electronic theory, and magnetic law as applied to telephone work.

(5 semester periods)

SUBJECT NO.

1305 **Communications — Telephone Circuits**

Electric circuits and the electrical transmission of energy; using circuits drawings to install and maintain telephone equipment.

(5 semester periods)

1308 **Communications — Telephone Electronics**

Sound and speech transmission, telephone apparatus and circuits, local and toll switching plans, plant records, and principles of plant engineering; review of basic electronic theory as applied to telephone circuits.

(5 semester periods)

1309 **Telephone Communications for the Deaf**

Instruction supplementing knowledge of those enrolled improve job skills; principles of sound and of telephone; standard procedures; courtesy, basic use of hearing indicator; maintenance and care of hearing indicator; use of codes; art of asking questions; special phone calls; practice in use of hearing indicator.

(1 semester period)

1311 **Transistors**

Introduction to the theory and operation of basic semi-conducting devices, with special emphasis on fundamental ideas and concepts rather than on detailed mathematical treatment; basic semi-conductor physics; types of transistors and their operation; transistors in selected electronic circuits.

(5 semester periods)

1313.1 **Introduction to Digital Computers 1**

Fundamental concepts of design, construction, and operation of digital computers; historical background; comparison of analog and digital computing techniques.

(5 semester periods)

1313.2 **Introduction to Digital Computers 2**

Number systems and introductory Boolean algebra; basic programming techniques; detailed investigation of the memory element; input/output device; arithmetic section; and control element.
Prerequisite: Introduction to Digital Computers 1 or equivalent.

(5 semester periods)

1316.1 **Repair and Maintenance of Electric Control Systems 1**

Alternating current; multi-phase generators; induction; capacitance and impedance; A.C. circuits; amplifiers; magnetic amplifiers; oscillators; gas and vapor electron tubes; and rectifier circuits.

(5 semester periods)

SUBJECT NO.

1316.2 **Repair and Maintenance of Electric Control Systems 2**

Continuation of A.C. systems; transformer power factor; phase shifting; electronic switches; maintenance procedures and trouble shooting techniques.
Prerequisite: Repair and Maintenance of Electric Control Systems 1 or equivalent.

(5 semester periods)

1330-1364 GRAPHIC ARTS

1331.1 **Photography 1**

Fundamentals of cameras and photographic equipment; taking, developing, printing, and enlarging pictures; study of optics of the camera, enlarger, lenses; applied chemistry of the development and processing of films and paper.

(5 semester periods)

1331.2 **Photography 2**

Taking, developing, and printing of interior and exterior photographs; types of cameras and photographic equipment; dark room techniques; lighting, shooting, color, light measurements, camera adjustments, focusing, shutter speeds, filters, color pictures.
Prerequisite: Photography 1 or equivalent.

(5 semester periods)

1334.1 **Color Photography 1**

Still and motion pictures in color; principles of still and motion picture cameras for amateur use; lenses; depth of field principle; filters; composition; lighting; interior and exterior subjects editing; titling; availability of proper materials for still and motion picture color photography.

(5 semester periods)

1334.2 **Color Photography 2**

Review of principles and processes of Color Photography 1; special lighting, flood, flash, stroboscopic; color harmony; special lenses; portraits; still life; action shots; landscapes; special effects; close-ups and microscopic photographs; story content, drama, impact, mood; use of sound strip.
Prerequisite: Color Photography 1 or equivalent.

(5 semester periods)

1337.1 **Cinema Photography 1**

Fundamentals of motion picture cameras, films, and equipment; taking motion pictures; making titles.

(5 semester periods)

1337.2 **Cinema Photography 2**

Editing; story development; script writing; animation; music background; narration; sound synchronization; special and trick photographic effects.
Prerequisite: Cinema Photography 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1340.1 Photo Tinting 1

Coloring photographs with oil colors, using brushes and cotton.

(5 semester periods)

1340.2 Photo Tinting 2

Advanced study of coloring photographs, using latest techniques of photo tinting.
Prerequisite: Photo Tinting 1 or equivalent.

(5 semester periods)

1343.1 Printing 1

Comprehensive shop practice; hand composition; linotype, intertype machine composition; platen, automatic platen, automatic small cylinder, and large cylinder presswork; power paper cutting; automatic folder operation; emphasis upon printing layout, design, correct production procedures and techniques.

(5 semester periods)

1343.2 Printing 2

Advanced shop practice; letterpress printing techniques, skills and procedures; hand and machine typesetting, makeup, lockup, broaching; platen, automatic small cylinder, and large cylinder presswork; paper figuring, power paper cutting, automatic paper folder operation; trade terminology; safety; related phases of the printing industry.
Prerequisite: Printing 1 or equivalent.

(5 semester periods)

1346.1 Offset Lithography 1

Lithographic process; camera stripping and plate making; presswork upon multilith presses; study of necessary chemicals and inks.

(5 semester periods)

1346.2 Offset Lithography 2

Paper, paper handling, and cutting; use of reproduction proofs, materials, tools, and equipment.
Prerequisite: Offset Lithography 1 or equivalent.

(5 semester periods)

1349.1 Commercial Art and Lettering 1

Lettering; layout; commercial design; cartooning; display techniques.

(5 semester periods)

1349.2 Commercial Art and Lettering 2

Advanced study of reproduction methods; production of posters signs, and other art media.
Prerequisite: Commercial Art and Lettering 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1350 **Dimensional Display Techniques**

Modern methods of merchandise presentation; dimensional design, uses of symbolism, basic mediums, exhibits, cost factors, lettering for display; store windows and interiors; projects in color, form, texture.

(5 semester periods)

1351 **Sign Painting and Show-Card Writing**

Fundamentals of sign painting and lettering; layouts; color display construction; sign construction; introduction to the silk screen process.

(10 semester periods)

1352 **Publication Art** (From Concept to Printing)

Skills and tools used in graphic layout of publications; estimating; finished art preparation; copy fitting; photo and printing processes; imposition and presswork; paper and ink; binding and finishing.

(5 semester periods)

1355.1 **Technical Writing and Editing 1**

Basic techniques required of the technical writer-editor in preparation of material for scientific and industrial publications; review of sentence and paragraph structure; logical organization and development of the technical publication.

(5 semester periods)

1355.2 **Technical Writing and Editing 2**

Advanced techniques of editing; preparation of copy and art; selection of lithographic and other reproduction methods.
Prerequisite: Adequate preparation in grammar and English usage.

(5 semester periods)

1365-1419 METAL

1365.1 **Metal Shop 1**

Shop and theory; skills; processes on bench metal, sheet metal, art metal, ornamental iron, and metal castings.

(5 semester periods)

1365.2 **Metal Shop 2**

Shop and theory; skills; processes on various metal work; forging; heat treating; machine shop practice and welding.
Prerequisite: Metal Shop 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1368.1 Machine Shop 1

Shop and theory; principles of tools and machines, cutting; feeds and speeds; use of lubricants and coolants; composition of metals, mechanisms; processes, methods; shop mathematics and blueprint reading; practice on all machines.

(5 semester periods)

1368.2 Machine Shop 2

Shop and theory; operation of the shaper feeds, speeds, and set-up; maintenance of milling machine and operation on plain milling, boring, drilling, facing; multiple-thread cutting on the lathe; solving formulas; applied mathematics; safety.
Prerequisite: Machine Shop 1 or equivalent.

(5 semester periods)

1368.3 Machine Shop 3

Shop and theory; planer operation, planer parts, feeds, tool grinding and set-up; milling machine practice on gear cutting slotting, fluting, cylindrical cutter grinding, internal grinding, hardening and tempering of taps, reamers, punches; advanced lathe and bench work; mathematics; safety.
Prerequisites: Machine Shop 1, 2 or equivalent.

(5 semester periods)

1368.4 Machine Shop 4

Shop and theory; gear design; advanced layout and inspection; heat treating of steel; template and profile work; tool and cutting grinding; jig boring; dovetail and tee slot work; helical milling; use of carbide cutting tools; precision work on all machines; sketching; interpreting drawing; planning; mathematics; safety; light and instrument measuring.
Prerequisites: Machine Shop 1, 2 or equivalent.

(5 semester periods)

1369 Machine Control Systems (Introduction)

Fundamentals of Machine Control Systems covers the installation, operation, and maintenance procedures of automatic machines as related to basic control systems pertinent to numerical control.

(10 semester periods)

1370 Numerical Control Maintenance

Installation, operation, and maintenance procedures for use with automated machinery as related to basic control systems.

(5 semester periods)

1371.1 Precision Inspection 1

Use and care of precision instruments; review of blueprint reading; mathematics pertinent to precision inspection.

(5 semester periods)

SUBJECT NO.

1371.2 Precision Inspection 2

Continuation of precision inspection, with emphasis on demonstration and practical application.
Prerequisite: Precision Inspection 1 or equivalent.

(5 semester periods)

1374.1 Welding — Acetylene 1

Shop and theory; physical properties of ferrous and non-ferrous metals; types of welds and joints; principles of burning, welding, and brazing.

(5 semester periods)

1374.2 Welding — Acetylene 2

Advanced instruction in interpretation of welding symbols used by the American Welding Society; making welds in all positions on mild steel, sheet metal, pipe, ferrous and nonferrous alloys; special emphasis on safety practices.
Prerequisite: Welding — Acetylene 1 or equivalent.

(5 semester periods)

1377.1 Welding — Arc 1

Shop and theory; fundamentals of arc welding; practice in horizontal and vertical welding.
Prerequisite: Welding — Acetylene 1 or equivalent.

(5 semester periods)

1377.2 Welding — Arc 2

Making welds on mild steel in all positions.
Prerequisites: Welding — Acetylene 1 and Arc 1 or equivalent.

(5 semester periods)

1380.1 Welding — Inert Gas 1

Theory and processes of inert gas welding; emphasis on safety and economy in use of equipment.
Prerequisites: Welding — Acetylene 1 and Arc 1 or equivalent.

(5 semester periods)

1380.2 Welding — Inert Gas 2

Instruction and applied techniques in welding with inert gas on sheet metal, pipe, and alloy steels.
Prerequisite: Welding — Inert Gas 1 or equivalent.

(5 semester periods)

1383.1 Boilermaking — Steel Plate Fabricating 1

Review of mathematics, including logarithms and their application to slopes and rises.

(5 semester periods)

SUBJECT NO.

1383.2 Boilermaking — Steel Plate Fabricating 2

Advanced instruction in theory and practice of template layout and design. Prerequisite: Boilermaking 1 or equivalent.

(5 semester periods)

1384.1 Shipfitting 1

General orientation of the shipfitters trade; nomenclature; blueprint reading; planning and lofting; material preparation and control; assembly and welding; safety.

(5 semester periods)

1384.2 Shipfitting 2

Advanced blueprint reading; 1/10 and full-scale lofting; various assembly methods; advanced welding and burning; safety.

(5 semester periods)

1386.1 Pressure Vessel Code 1 — Unfired

Design, fabrication, construction, erection, repair, and inspection of unfired pressure vessels; discussion of related stress, metallurgy, welding, riveting, brazing, forging, cast construction, support, and other problems encountered in unfired pressure vessels.

(5 semester periods)

1386.2 Pressure Vessel Code 2 — Fired

Design, fabrication, erection, repair, and inspection of power boilers, and fired pressure vessels; discussion of related stress, metallurgy, assembly, piping, support, and other problems.

(5 semester periods)

1389.1 Heating, Ventilating and Air Conditioning 1

Heating, ventilating, and air conditioning theories and methods; properties and application of fuses; venting principles; heating transfer and heating load theory; construction affecting air conditioning installation.

(5 semester periods)

1389.2 Heating, Ventilating and Air Conditioning 2

Continuation of heating systems; theory of air distribution systems; controls for heating and air conditioning; air conditioning cost estimating; cooling systems theory; refrigeration cycle principles; heating theory and measurements; cyclemetrics; equipment selection. Prerequisite: Heating, Ventilating and Air Conditioning 1 or equivalent.

(5 semester periods)

1390 Heating, Ventilating, Refrigeration, and Air Conditioning

Fundamentals of heating, ventilating, refrigeration, and air conditioning equipment controls and their applications; calibrations in the highly specialized field of refrigeration, heating, ventilating, and their air conditioning trades.

(5 semester periods)

SUBJECT NO.

1392.1 Refrigeration and Air Conditioning 1

Journeyman aspects of refrigeration and air conditioning; principles of thermodynamics, psychometry, and other related sciences.

(5 semester periods)

1392.2 Refrigeration and Air Conditioning 2

Advanced instruction in the refrigeration field; properties of refrigerants; related information dealing with installation, service, and operation of all piping and equipment.
Prerequisite: Refrigeration and Air Conditioning 1 or equivalent.

(5 semester periods)

1395.1 Refrigeration and Steam Plant Operation 1

Principles of refrigeration and steam plant operation; basic thermodynamics; heat transfer; elementary fluid flow; humidity; psychometric theory.

(5 semester periods)

1395.2 Refrigeration and Steam Plant Operation 2

Refrigeration cycle; refrigerants; basic auxiliary equipment; pumps for steam plant operation; steam generators; water treatment; heat exchangers; turbo generators.
Prerequisite: Refrigeration and Steam Plant Operation 1 or equivalent.

(5 semester periods)

1398.1 Air Balancing and Testing 1

Introduction to testing and air balancing; safety; worker qualifications; air distribution; components of heating, ventilating, and air conditioning; use of instruments in testing and balancing.

(5 semester periods)

1398.2 Air Balancing and Testing 2

Development of charts; air duct design; balance procedures; developing and building mock-ups.
Prerequisite: Air Balancing and Testing 1 or equivalent.

(5 semester periods)

1401.1 Thermoplastic Plastics 1

General nature and physical properties of thermoplastic plastics; layout principles; maintenance of tools and machines.

(5 semester periods)

1401.2 Thermoplastic Plastics 2

Plastic forming; various methods of jointing, finishing, and coating; installation methods; health and safety; uniform codes pertaining to plastics.
Prerequisite: Thermoplastic Plastics 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1404.1 Thermosetting Plastics 1

General nature and physical properties of reinforced plastics; mold preparation and laminating techniques.

(5 semester periods)

1404.2 Thermosetting Plastics 2

Sandwich construction; trimming and machining; secondary bonding; repair and finishing; health and safety; uniform codes pertaining to plastics.
Prerequisite: Thermosetting Plastics 1 or equivalent.

(5 semester periods)

1407.1 Millwright — Hydraulics 1

Operation and maintenance of hydraulic systems.

(5 semester periods)

1407.2 Millwright — Hydraulics 2

Advanced study of hydraulic pumps, valves, and piping; use of schematic drawings; safety practices.
Prerequisite: Millwright — Hydraulics 1 or equivalent.

(5 semester periods)

1410 Review of Hydraulic Problems — Open Channel Flow

Pen-stock problems; flood predictions; various types of back water curves; momentum curves; disposal of precipitation involving use of open channel flow; theory of the steady flow of water in open channels.

(5 semester periods)

1413 Mechanical Shaft Seals

Design, construction, installation, operation, maintenance, and fundamental principles of shaft seals, pumps, and turbines; blueprint reading; densities and action of fluids; chemical effects on pumps and seals; hazards of and elimination of vibration and extreme temperatures on all types of mechanical seals.

(5 semester periods)

1420-1459 PERSONAL AND PUBLIC SERVICE

1421 Survey of Engineering Operations

Technical personnel and departments; symbols; uses of engineering; drafting and mapping; land and city surveying; water supply; sanitation; hydraulic works; pipe lines; dams and reservoirs; building codes; power generation and distribution.

(2½ semester periods)

SUBJECT NO.

1424 Civil Engineering Fundamentals Review

Review of structural theory design in steel; concrete and timber; earthquake design; hydraulics; survey; highway engineering; engineering economics.

(5 semester periods)

1425 Boundary Surveying

Surveying lines; their status, their establishment and re-establishment; the duties and obligations of the surveyor; California law; professional ethics and responsibilities.

(5 semester periods)

1426.1 Trigonometry as Applied to Road Surveying

Practical surveying problems, using trigonometric functions, right angles, oblique triangles, radian measure and circular arcs, parabolic curves, trigonometric solutions of polygons; state co-ordinate system.

(5 semester periods)

1426.4 Advanced Road Surveying

Recording survey data for public record; road construction surveys; construction grade sheets; staking for drainage structures; plan checking; road surveys for improvements of new roads.

(5 semester periods)

1427.1 Electrical Engineering Fundamentals Review 1

Review of electrical engineering fundamentals.

(5 semester periods)

1427.2 Electrical Engineering Fundamentals Review 2

A.C. and D.C. theory; circuits; transmission lines; symmetrical components.

(5 semester periods)

1430 Elementary Mechanics — Engineering

Elements of statics and dynamics and their application to engineering problems; forces and reactions; vector representation; composition and resolution of forces; moments of inertia, acceleration, velocity, power, and energy; and elementary mechanics of fluids

(5 semester periods)

1431 Petroleum Processes

Basic petroleum processes; survey of the broader elements of the industry; total refinery processes.

(5 semester periods)

SUBJECT NO.

1432 **Construction Specifications and Contracts**

Elements of construction specifications; contracts from the engineer's viewpoint; general conditions; special specifications, material specifications; instructions to bidders, bid documents, bidding procedures; change orders; construction contracts; contract law.

(5 semester periods)

1433 **Engineer-In-Training Refresher**

Review of fundamental physics, chemistry, and mathematics as applied to engineering problems; mechanics of solids and fluids; application of the equation of state, energy, and motion; elementary problems in light, heat, and sound.

(5 semester periods)

1434 **Hydraulic Engineering Review**

Review of fluid mechanics; open channel and pipe flow; hydrology and ground water concepts; hydraulics of pumps, pumping, water systems, and water power; economics as pertaining to hydraulics; design of hydraulic structures. This course is specifically designed to meet the needs of men who plan to take the hydraulic option in the California State Civil Engineering Registration Examination.

(5 semester periods)

1436 **Appliance Servicing**

Essential basic mathematics, mechanics, and electricity; basic chemistry of water and metals; electric motors and devices used in home appliances; blueprint reading; plumbing practices, nomenclature, and codes; service and repair of small appliances; gas and electric ranges; clothes washers, dryers, and ironers; disposers and dishwashers; methods of trouble analysis and trouble shooting; elements of customer relations and salesmanship.

(5 semester periods)

1439.1 **Cosmetology 1**

Review of the theory and practical skills required by the California State Board of Cosmetology.

(5 semester periods)

1439.2 **Cosmetology 2**

Training in the new techniques of hair dressing and styling.
Prerequisite: Open only to person with trade experience desiring to obtain or renew licenses issued by the California State Board of Cosmetology.

(5 semester periods)

1442.1 **Custodial Engineering 1**

Cleaning techniques; floor maintenance; building fixture maintenance; steam boiler operation; minor repairs.

(5 semester periods)

SUBJECT NO.

1442.2 Custodial Engineering 2

Ventilating and heating; building sanitation; and all custodial duties required to maintain the highest standards of building cleanliness and efficiency.

(5 semester periods)

1442.3 Custodial Engineering 3

Supervision for head custodian, inspection of building and grounds, control of supplies and equipment; record keeping, and management of personnel.

(5 semester periods)

1443 Pest Control

Overall review of types of pest insect identification; purposes and methods of pest control.

(5 semester periods)

1445 Commercial Pool Servicing

Principles of maintenance, operation, repair, or construction of swimming pools, including pool design and operation; legal requirements; hydraulics, general construction; filters, gauges, feeders, indicators, chlorination, chemicals, coagulants, and P.H. control.

(5 semester periods)

1448.1 Water Conditioning 1

Basic water treatment course for plant operators and engineers; boiler feedwater treatment; cooling water treatment.

(5 semester periods)

1448.2 Water Conditioning 2

Softening and other treatment procedures and problems normally encountered in industrial establishments that use water; operating, testing, and design problems.
Prerequisite: Water Conditioning 1 or equivalent.

(5 semester periods)

1449.1 Water Distribution System Practice 1

Current practices in water distribution system design, construction, and operation; water mains, services, meters, regulators, and valves.

(5 semester periods)

1449.2 Water Distribution System Practice 2

An advanced study of current practices in water distribution system design, construction and operation; water mains, services, meters, regulators, and valves.
Prerequisite: Water Distribution System Practice 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1451.1 Steam Plant Operation 1 — Basic

Principles of operation and equipment of modern steam power plant cycles; basic mathematics and science as applied to steam plants; trouble diagnosis and safe operating practices.

(5 semester periods)

1451.2 Steam Plant Operation 2 — Advanced

Basic physics and chemistry as applied to steam plants; efficiency of machines; use of the Mollier Diagram in steam plant cycle efficiency; fuels and combustion; feedwater treatment.
Prerequisite; Steam Plant Operation 1 or equivalent.

(5 semester periods)

1451.3 Steam Plant Operation 3 — Mathematics

Basic mathematics; plane geometry, algebra, and graphs as related to steam plants; physical and chemical processes relating to steam plants; use of steam tables, graphs and charts.

(5 semester periods)

1452 Steam Plant Operation — Pneumatic Controls

Principles of steam plant operation and maintenance; pneumatic controls; systems and basic controls; thermostat; pressure controls; valves; operators; unit heaters.

(5 semester periods)

1454.1 Nuclear Energy and Power Plant Applications 1

Principles of atomic structure; principles of radiation protection, fission, fusion, and energy release.

(5 semester periods)

1454.2 Nuclear Energy and Power Plant Applications 2

Nuclear reactors; nuclear fuels; reactor controls and instrumentation; commercial development of nuclear energy applied to power plant operation.
Prerequisite: Nuclear Energy and Power Plant Application 1 or equivalent.

(5 semester periods)

1457.1 Vocational Rehabilitation 1

Occupational rehabilitation for persons seeking employment.

(5 semester periods)

1457.2 Vocational Rehabilitation 2

Development of hand skills; plastic and woodworking; mending; painting; garment design and cutting; use of power sewing machines.

(5 semester periods)

SUBJECT NO.

1460-1474 SUPERVISION

1461.1 Industrial Supervision 1 — Beginning

Survey course in the principles of supervision in industrial plants, covering essentials of organization, employee and employer relations, industrial economics, labor relations, and records and reports.

(5 semester periods)

1461.2 Industrial Supervision 2 — Intermediate

Detailed study of the total responsibilities of the supervisor in industry, such as: organization, selection, placement, and training of personnel; labor relations and laws; and the basis of management.

(5 semester periods)

1461.3 Industrial Supervision 3 — Advanced

General principles and concepts of company management; specific emphasis on principles of planning and control; practical applications to the areas of manpower, materials, manufacturing, quality, and financial planning and control.

(5 semester periods)

1464 Industrial Economics

Significant economic facts; development of a critical attitude toward industrial economics; institutions and practices that determine our environment; management-supervisor-employee relationships to economics and local industry.

(5 semester periods)

1467 Industrial Quality Control

Theory and practice of the newest techniques in quality production, applicable to any trade or occupation, emphasis on charting, sampling, statistics, and philosophy of quality.

(5 semester periods)

1470 Labor-Management Relations

History and development of the Labor Movement, development of the National Labor Relations Act, the Wagner Act, the Taft-Hartley Act; the supervisor's responsibility for good labor relations; the union contract and grievance procedure.

(5 semester periods)

1475-1484 TEXTILE AND APPAREL

1476.1 Upholstery 1

Shop and theory; upholstering foot stools, benches, chairs, chaise lounges, and davenports.

(5 semester periods)

SUBJECT NO.

1476.2 Upholstery 2

Materials and fabrics; methods and techniques of springing, stuffing, covering, and cushion working.
Prerequisite: Upholstery 1 or equivalent.

(5 semester periods)

1479.1 Power Sewing — Single Needle 1

Shop and theory; power control; care and operation of machine.

(5 semester periods)

1479.2 Power Sewing — Single Needle 2

Use of commercial patterns; construction of details; garment assembling; safety practices.

(5 semester periods)

1482.1 Power Sewing — Special Machines 1

Shop and theory; power control; care and operation of special machines — overlock; two-needle shirrer, button hole, blindstitch, and hemstitch.
Prerequisite: Power Sewing — Single Needle or equivalent.

(5 semester periods)

1482.2 Power Sewing — Special Machines 2

Proper use of commercial patterns; construction of detail and garment assembling; safety practices.
Prerequisite: Power Sewing — Single Needle or equivalent.

(5 semester periods)

1485-1499 WOODWORKING

1486.1 Woodworking 1

Shop and theory; basic hand tools skills and processes; operation of woodworking machinery; wood finishing; emphasis upon workmanship, construction, design, finish, and safety practices.

(5 semester periods)

1486.2 Woodworking 2

Shop and theory; design and construction of period and modern furniture; emphasis upon accuracy and skill; curving, inlaying, turning, moldings, wood pattern making; study of house construction.
Prerequisite: Woodworking 1 or equivalent.

(5 semester periods)

SUBJECT NO.

1489.1 Cabinetmaking and Millwork 1

Shop and theory; emphasis on machine operation; principles of machine and tool alignment; working qualities of woods; construction of joints and layout methods; special set-ups; template and jig work; working from drawings; care of machinery; tool sharpening; safety.
Prerequisite: Woodworking 1 or equivalent.

(5 semester periods)

1489.2 Cabinetmaking and Millwork 2

Shop and theory; production procedures; design and layout; building of cabinets; cutting, gluing, and assemblies; finishing hardware; hanging of doors, windows, and cabinets; layout; grinding of special knives for moldings and copings.
Prerequisite: Cabinetmaking and Millwork 1 or equivalent.

(5 semester periods)

1492.1 Furniture Repair and Refinishing 1

Shop and theory; selection and use of hand tools, material, and equipment.

(5 semester periods)

1492.2 Furniture Repair and Refinishing 2

Advanced techniques of furniture repair and refinishing.
Prerequisite: Furniture Repair and Refinishing 1 or equivalent.

(5 semester periods)

1495 Plastics Lamination and Fabrication

Plastic laminates, adhesives; lumber, fasteners, trim, and processes; techniques of handling fabrication and installation by hand and machines.

(5 semester periods)

1500-1549 MUSIC EDUCATION

SUBJECT NO.

1500-1507 INSTRUMENTAL

1501 **Instrumental Practice and Techniques**

Basic techniques for playing instruments of the orchestra; band and other instruments used for accompaniment and solo work — guitar, accordion.

(5 semester periods)

1503 **Orchestra**

Orchestral repertoire, including the classics, romantic, and modern compositions.
Prerequisite: Ability to be determined by director.

(5 semester periods)

1505 **Band**

Band literature suitable to the various types of bands; concert and popular; arrangements and compositions as related to the needs of studio, radio, and television work; related activities.
Prerequisite: Ability to be determined by director.

(5 semester periods)

1508-1512 ORGAN

1509 **Organ — Beginning**

Basic keyboard and pedalboard techniques; note reading; keyboard harmony; playing of compositions suitable to this stage of learning.

(5 semester periods)

1513-1519 PIANO

1514.1 **Piano — Beginning**

Basic knowledge of the keyboard; application and correlation of fingers with keyboard; note reading; recognition of melodic figures; harmonic figures and rhythm motifs; tone production; chord building; use of pedal interpretation of simple compositions.

(10 semester periods)

1514.2 **Piano — Intermediate**

Development of technique, expression, dexterity, variety of touch, and passage playing; interpretation of more difficult compositions.

(10 semester periods)

SUBJECT NO.

1514.3 Piano — Advanced

Piano repertoire; modern and classical compositions; preparation for commercial playing; popular types of compositions and rhythms; accompanying vocal and instrumental soloists and ensembles.

(10 semester periods)

1520-1529 THEORY

1521.1 Fundamentals of Music 1

Sight singing and tone hearing; scale construction; key signatures; time and rhythm practice; major and minor modes; simple song dictation.

(5 semester periods)

1521.2 Fundamentals of Music 2

Continuation of Fundamentals of Music 1; sight reading of all types of musical compositions; music dictation; intensive study of sight singing and listening skills.
Prerequisite: Fundamental of Music 1.

(5 semester periods)

1523 Harmony

Theory and practice of music notation; all types of chords and their relationships; harmonization of melodies; diatonic harmonies; simple chromatic alternations; chromatic harmonies; modulation; beginning work in scoring and creative compositions.
Prerequisite: Fundamentals of Music 1 or equivalent.

(10 semester periods)

1525 Music Composition

Construction, development, and style of original music composition; scoring and arranging instrumental and vocal compositions.
Prerequisite: Harmony or equivalent.

(5 semester periods)

1527 Music Arranging

Musical penmanship; part copying; score extractions; transposing.

(5 semester periods)

1530-1539 VOCAL

1531.1 Voice 1 — Fundamentals of Singing

Basic musicianship; breath support; tone production; diction; physical and mental aspects of singing; qualities of tone and their uses; practice of vocal embellishments and other

related exercises; song literature suitable to the beginning phase of vocal development; part singing.

(5 semester periods)

1531.3 Voice 2 — Advanced

Continuation of Fundamentals of Singing; repertoire and advanced vocalizing suitable to this phase of vocal cultivation; part singing.
Prerequisite: Voice 1 — Fundamentals of Singing or equivalent to be determined by the instructor.

(5 semester periods)

1533 Song Coaching and Recital Practice

Repertoire building; phrasing; diction; application of dynamic and dramatic notations; stage deportment; microphone techniques for radio, television, and related activities.
Prerequisites: Ability to be determined by instructor.

(5 semester periods)

1535 Chorus

Choral literature; tonal blend and phrasing; following the director; time and rhythm practice; ensemble singing as related to current radio, television, and studio demands; a cappella choir.
Prerequisite: Ability to be determined by director.

(5 semester periods)

1537 Opera and Operetta Workshop

Production of operas and operettas; stage management and direction.
Prequisite: Ability to be determined by director.

(5 semester periods)

1540-1549 MUSIC, GENERAL

1541 Music Appreciation

Music history and literature; classic romantic, and modern styles; opera, operetta, folk music, art songs, and concert music; forms of commercial music; listening to music.

(5 semester periods)

1543 Music Conducting

Use of the baton; basic time and rhythm patterns; study and practice of materials suited for choral and instrumental ensembles.
Prerequisite: Sufficient musical background to be determined by instructor.

(5 semester periods)

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